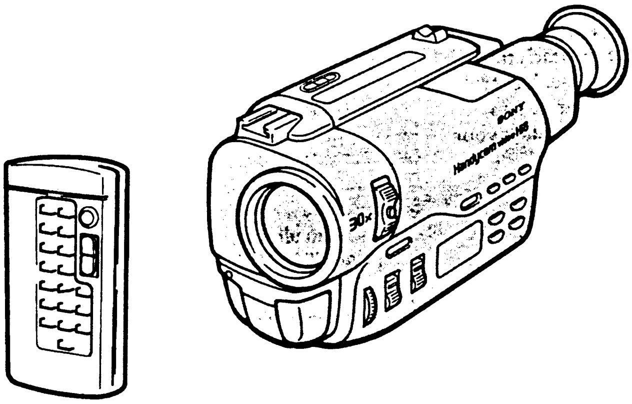
CCD-TR790E
RMT-716

SERVICE MANUAL

AEP Model



Handycam
Video Hi8
B MECHANISM

Difference manual

CCD-TR790E is that the following functions are eliminated electrically against the original CCD-TR810E.
Therefore use the service manual of CCD-TR610E/TR710E/TR760E/TR810E/TR910E (9-973-893-11) eliminating the following functions.

- The difference of circuit diagrams. wired diagrams, printed diagrams and block diagrams are not mentioned in this service manual.

Main Difference

	CCD-TR810E (Original model)	**CCD-TR790E**
Easy Connect	○ (EZ-21 board)	—
Accessory shoe	Intelligent (FP-426 flexible board)	Standard (—)

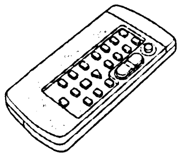
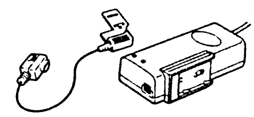
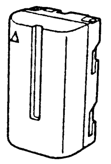
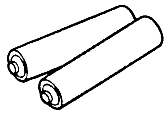
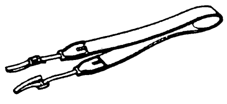
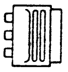
For MECHANISM ADJUSTMENTS, refer to the "8 mm Video MECHANICAL ADJUSTMENT MANUAL VII" (9-973-801-11).

Hi8 VIDEO CAMERA RECODER

SONY®

MICROFILM

Supplied accessories

1 	2 	3 	4
5 	6 	7 	8 

1 **Wireless Remote Commander** (1)

2 **AC power adaptor** (1)

3 **NP-F530 Battery pack** (1)

4 **CR2025 Lithium Battery** (1)
The lithium battery is already installed in your camcorder.

5 **R6 (size AA) battery for Remote Commander** (2)

6 **A/V connecting cable** (1)

7 **Shoulder strap** (1)

8 **21 pin adaptor** (1)

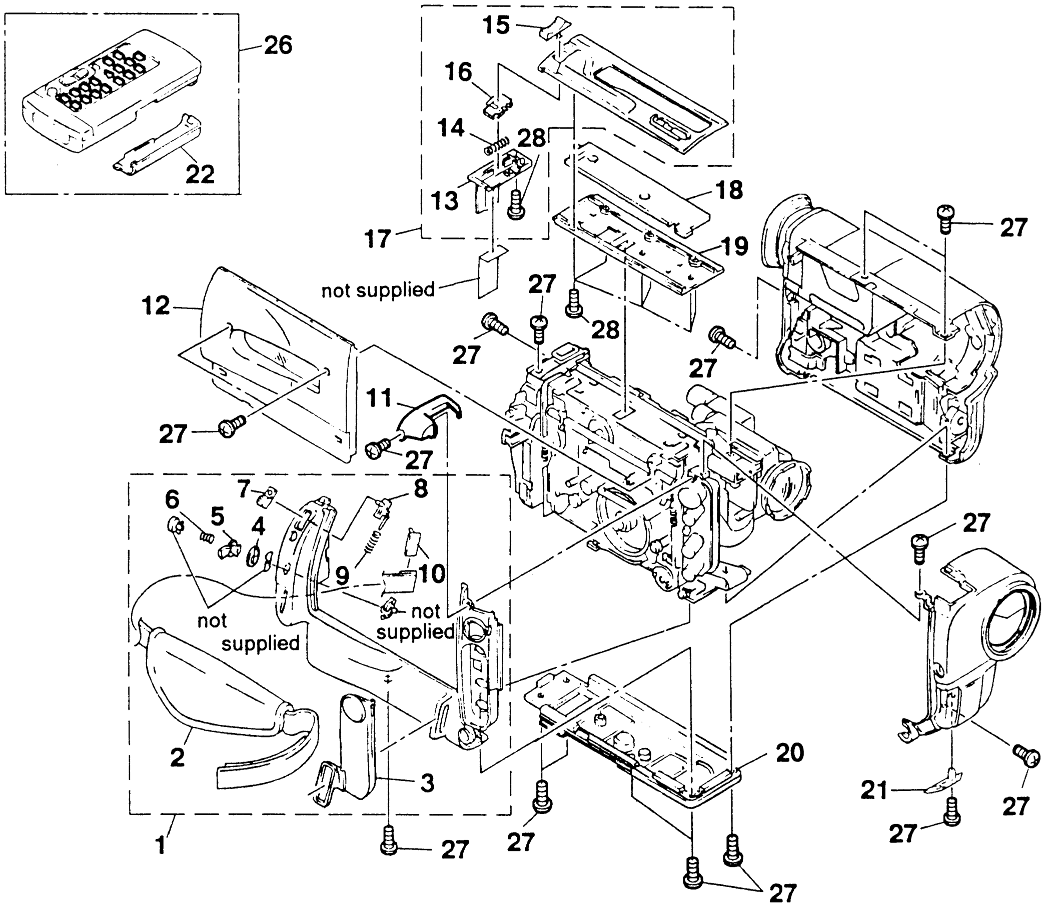
SECTION 5
REPAIR PARTS LIST

5-1. EXPLODED VIEWS

NOTE:
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

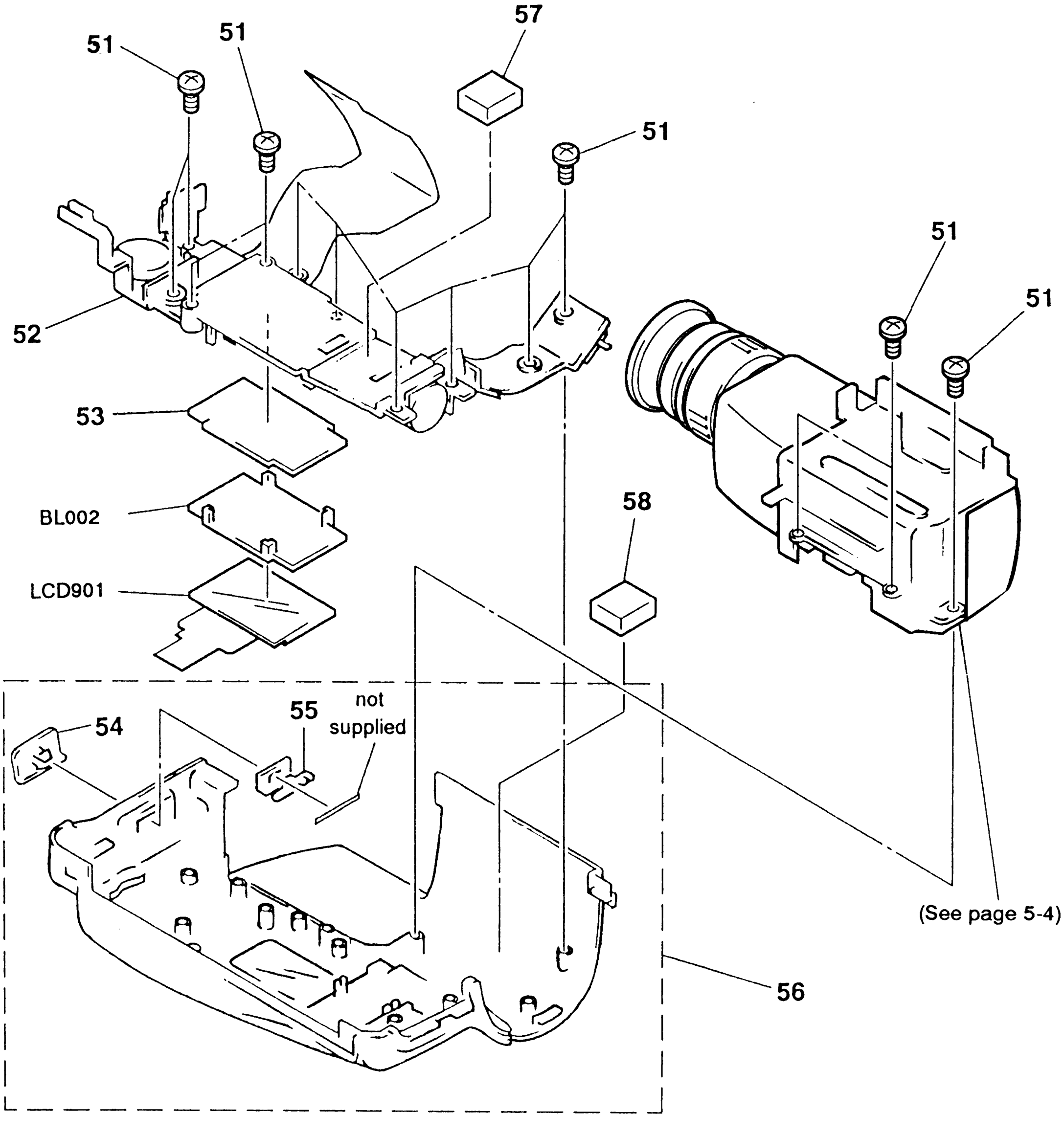
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

5-1-1. CABINET (L) ASSEMBLY



Ref. No.	Part No.	Description	Remark
1	X-3946-711-1	CABINET (L) ASSY	
2	3-969-339-01	BELT, GRIP	
3	3-968-781-11	LID, JACK	
4	3-736-364-01	SPRING, STAND-BY	
5	3-790-854-01	KNOB, STAND-BY	
6	3-578-221-00	SPRING, COMPRESSION	
7	3-968-779-11	BUTTON, EJECT	
8	3-968-780-01	LOCK, EJECT	
9	3-302-492-00	SPRING, COMPRESSION	
10	3-942-895-01	STOPPER, BELT	
11	3-968-800-11	CABINET, SHOE	
12	X-3946-442-1	LID ASSY, CASSETTE	
13	3-968-773-01	BASE, ZOOM	
14	3-970-851-01	SPRING, COMPRESSION	
15	3-968-774-11	LEVER, ZOOM	
16	3-968-775-01	SLIDER, ZOOM	
17	X-3946-026-1	UPPER ASSY, LS	
18	A-7072-636-A	FK-66 (MP) BOARD, COMPLETE	
19	3-968-799-01	LS (LOWER)	
20	X-3946-172-1	BOTTOM ASSY, CABINET	
21	3-968-796-11	LID, CPC	
22	3-742-854-01	LID, BATTERY CASE (for RMT-716)	
26	8-917-540-90	REMOCON RMT-716//M SET	
27	3-719-381-01	SCREW (M2X4)	
28	3-713-791-51	SCREW (M1.7X3.5), TAPPING, P2	

5-1-2. CABINET (R) ASSEMBLY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52
53
BL002
58
LCD901
54
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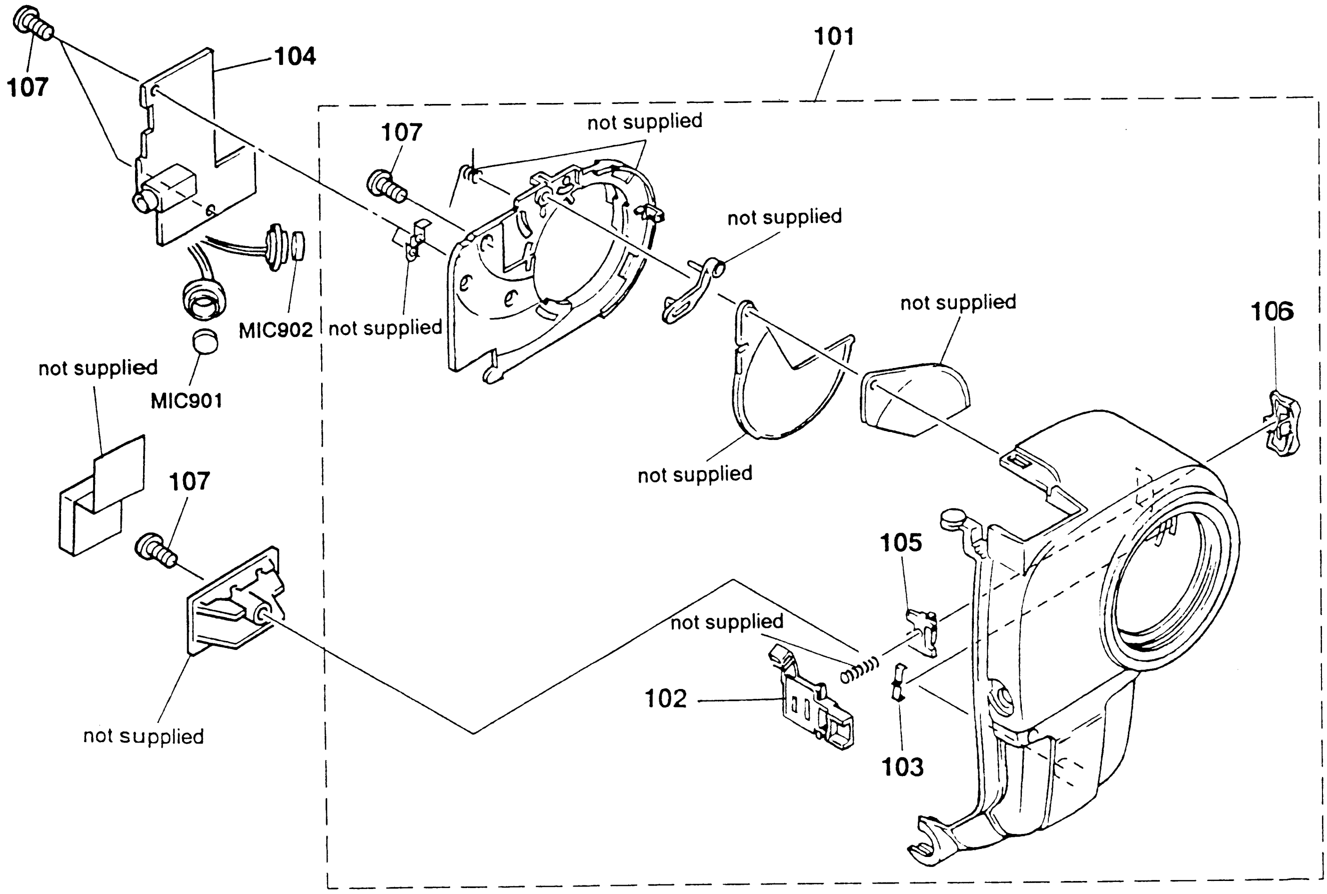
not supplied
(See page 5-4)
56

Ref. No.	Part No.	Description	Remark
51	3-948-339-01	SCREW, TAPPING	
52	1-473-604-11	SWITCH BLOCK, CONTROL (CF-6300)	
53	A-7072-548-A	LC-52 (HC) BOARD, COMPLETE	
54	3-968-758-11	KNOB, S/S MODE	
55	3-968-759-01	MODE, S/S	

Ref. No.	Part No.	Description	Remark
56	X-3946-712-1	CABINET (R) ASSY	
* 57	3-971-132-01	CUSHION (R1), ABSORBENT	
* 58	3-971-133-01	CUSHION (R2), ABSORBENT	
BL002	1-517-528-11	LIGHT, BACK	
LCD901	1-801-207-11	DISPLAY PANEL, LIQUID CRYSTAL	

5-1-3. FRONT PANEL ASSEMBLY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MIC902
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MIC901
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107
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105
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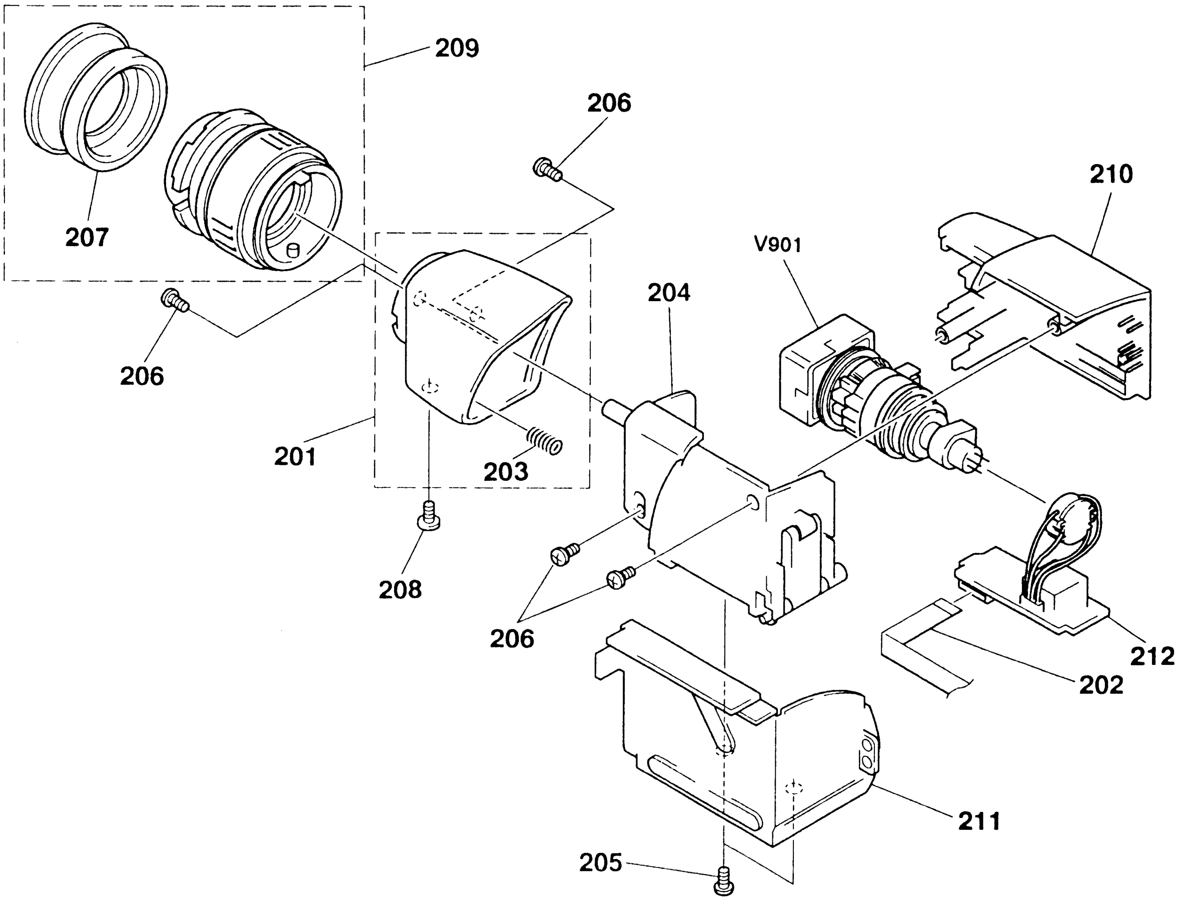
102
103
not supplied

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	X-3946-028-1	PANEL ASSY, FRONT		106	3-968-739-01	BUTTON, POWER	
102	3-968-741-01	RETAINER, POWER BUTTON		107	3-948-339-01	SCREW, TAPPING	
103	3-969-270-01	SPRING, CLICK		MIC901	1-542-259-11	MICROPHONE, CAP	
104	A-7072-547-A	MA-268 (HC) BOARD, COMPLETE		MIC902	1-542-259-11	MICROPHONE, CAP	
105	3-968-740-01	BUTTON, POWER LOCK					

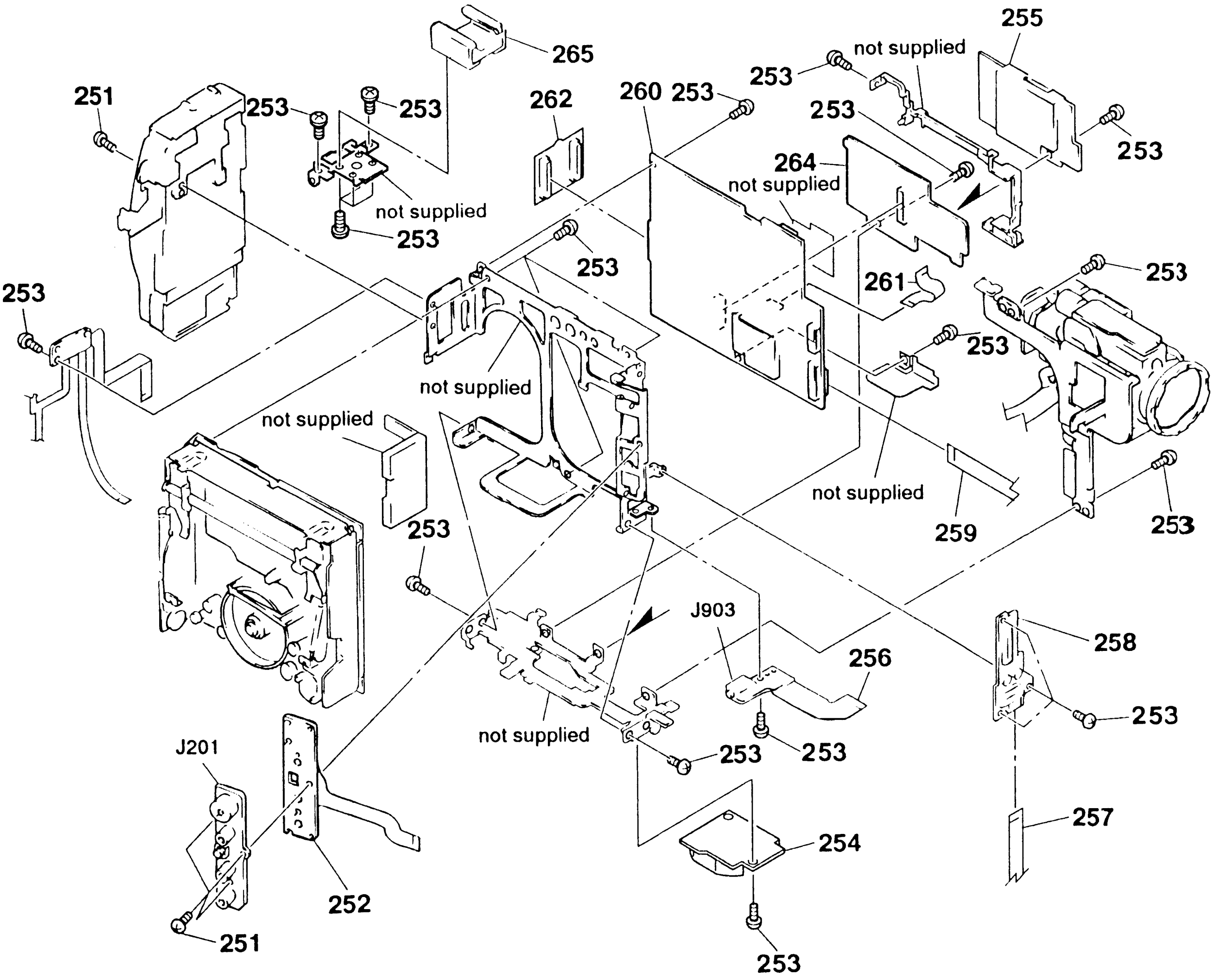
5-1-5. EVF BLOCK ASSEMBLY (B/W)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
201	X-3945-934-1	ORNAMENT ASSY, EVF	
202	1-661-547-11	FP-490 FLEXIBLE BOARD	
203	3-302-492-00	SPRING, COMPRESSION	
204	X-3946-592-1	CABINET (L) ASSY, EVF	
205	3-719-381-01	SCREW (M2X4)	
206	3-948-339-01	SCREW, TAPPING	
207	3-963-391-01	EYE CUP	
208	3-703-454-41	SCREW (1.7X3, TAPPING)	
209	X-3944-966-1	FINDER ASSY	
210	3-968-798-11	CABINET (R), EVF	
211	X-3946-467-1	CABINET ASSY, BASE	
212	A-7066-774-A	VF-99 (HP) BOARD, COMPLETE	
⚠V901	1-452-673-31	CRT ASSY (M01KXX90WB)	

5-1-6. MAIN BOARDS ASSEMBLY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J903
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not supplied
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J201
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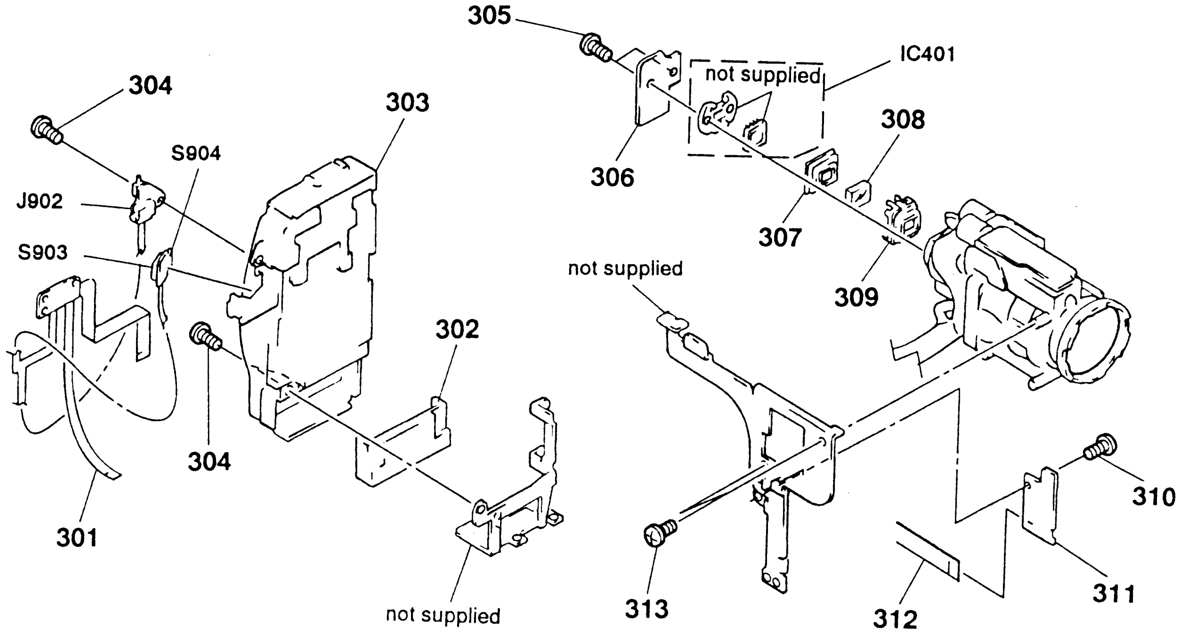
253

Ref. No.	Part No.	Description	Remark
251	3-719-381-01	SCREW (M2X4)	
252	1-660-278-11	FP-378 FLEXIBLE BOARD	
253	3-713-786-21	SCREW (M2X3)	
254	A-7072-546-A	LI-56 (HC) BOARD, COMPLETE	
255	A-7092-806-A	DD-86 (MP) BOARD, COMPLETE	
256	1-660-279-11	FP-379 FLEXIBLE BOARD	
257	1-660-277-11	FP-377 FLEXIBLE BOARD	
258	A-7072-551-A	SE-51 (HC) BOARD, COMPLETE	
259	1-660-302-11	FP-435 FLEXIBLE BOARD	
260	A-7092-765-A	VC-177 (HP) BOARD, COMPLETE	
261	1-660-286-11	FP-387 FLEXIBLE BOARD	
262	1-660-283-11	FP-383 FLEXIBLE BOARD	
264	A-7092-767-A	HI-39 (HP) BOARD, COMPLETE	
265	X-3946-197-1	SHOE ASSY	
J201	1-537-747-21	TERMINAL BOARD	
J903	1-695-514-21	JACK (SMALL TYPE) 1P (HEADPHONES)	

5-1-7. BATTERY PANEL ASSEMBLY


305
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not supplied
IC401
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S904
J902
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S903
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311

Be sure to read "Note on the CCD Imager replacement" on page 4–8 when changing the CCD imager.

Ref. No.	Part No.	Description	Remark
301	1-661-052-11	FP-457 FLEXIBLE BOARD	
302	1-694-076-11	TERMINAL BOARD, BATTERY	
303	X-3946-173-1	PANEL ASSY, BATTERY	
304	3-719-381-01	SCREW (M2X4)	
305	3-318-203-11	SCREW (B1.7X6), TAPPING	
306	A-7072-549-A	CD-148 (HC) BOARD, COMPLETE	
307	3-961-192-11	RUBBER (FH), SEAL	
308	1-547-787-61	FILTER BLOCK, OPTICAL	
309	3-963-467-11	ADAPTOR (FH), CCD FITTING	
310	3-713-786-21	SCREW (M2X3)	
311	A-7072-560-A	AV-35 (HP) BOARD, COMPLETE	
312	1-660-531-11	FP-429 FLEXIBLE BOARD	
313	3-948-339-01	SCREW, TAPPING	
IC401	A-7030-659-A	CCD BLOCK ASSY (CCD IMAGER)(071 SERVICE)	
J902	1-565-276-21	JACK, ULTRA SMALL 1P (LANC)	
S903	1-571-315-11	SWITCH, KEY BOARD (START/STOP)	
S904	1-553-977-00	SWITCH, SLIDE (STANDBY, LOCK)	

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		*******************************	
	1-573-291-11	CONNECTOR, CONVERSION	
	1-575-334-11	CORD, CONNECTION (A/V connecting cable (STEREO) 1.5m)	
	3-856-186-11	MANUAL, INSTRUCTION (ENGLISH, SPANISH)	
	3-856-186-41	MANUAL, INSTRUCTION (GERMAN, ITALIAN)	
	3-856-186-51	MANUAL, INSTRUCTION (FRENCH, DUTCH)	
	3-856-186-61	MANUAL, INSTRUCTION (SWEDISH, PORTUGUESE)	
	3-947-969-21	BELT (S), SHOULDER	
*	3-968-806-01	CUSHION, ACC	
*	3-968-807-01	CUSHION (LOWER)	
*	3-968-808-81	INDIVIDUAL CARTON	
	8-917-541-90	REMOCON RMT-716//M SET	
⚠	A-7009-234-A	AC POWER ADAPTOR (AC-V316)	
**	NP-F530	BATTERY PACK	

NOTE.

** MARK PARTS IS AVAILABLE AS AN OPTIONAL ACCESSORY.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

9-973-904-11

Sony Corporation
Personal A&V Products Company

English
96G0954-1
Printed in Japan
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Published by Quality Engineering Dept.
(Osaki Eas

CCD-TR610E/TR710E/TR760E/TR810E/TR910E
RMT-708/715/716

SERVICE MANUAL

AEP Model
UK Model
CCD-TR610E/TR760E/TR810E
E Model
CCD-TR610E/TR710E/TR910E
Australian Model
CCD-TR710E/TR910E
Tourist Model
Hong Kong Model
CCD-TR910E

Handycam
Video 8
video Hi8
B MECHANISM

SONY
SONY
Handycam Video 8
30x

Photo : CCD-TR610E
: RMT-708

For MECHANISM ADJUSTMENTS, refer to the "8mm Video MECHANICAL ADJUSTMENT MANUAL VII" (9-973-801-11).

SPECIFICATIONS

Video camera recorder

System

Video recording system
Two rotary heads, Helical scanning FM system
Audio recording system
Rotary heads, FM system
Video signal
PAL colour, CCIR standards
Usable cassette
8mm video format cassette (Hi8 (CCD-TR760E/TR810E/TR910E only) or standard 8 mm)
Recording/Playback time
SP mode: 1 hour and 30 minutes (E5 / P5-90)
LP mode: 3 hours (E5/P5-90)
Fastforward/rewind time
Approx. 4 min (E5/PS-90)
Image device
CCD (Charge Coupled Device)
Viewfinder
Electronic viewfinder (Monochrome)
Lens
Combined power zoom lens
Filter diameter 37 mm (1 $^{7}/_{16}$ in.)
15x (optical)
30x (Digital)
(CCD-TR610E: AEP/UK/TR760E/TR810E)
60x (Digital)
(CCD-TR610E: E/TR710E/TR910E)
Focal distance
4.1 – 61.5 mm ($^{3}/_{16}$ – 2 $^{3}/_{8}$ in.)
39 – 585 mm (1 $^{9}/_{16}$ – 22 $^{1}/_{16}$ in.)
when converted to a 35 mm still camera
Illumination range
2 lux to 100,000 lux
Recommended illumination
More than 100 lux

Input and output connectors

S video output (CCD-TR760E/TR810E/TR910E only)
4-pin mini DIN
Luminance signal: 1 Vp-p, 75 ohms, unbalanced, sync negative
Chrominance signal: 0.3 Vp-p, 75 ohms, unbalanced
Video input/output
Phono jack, 1 Vp-p, 75 ohms, unbalanced, sync negative
Audio input/output
Phono jacks (2: stereo L and R)
327 mV, (at output impedance 47 kilohms) impedance less than 2.2 kilohms
RFU DC OUT
Special minijack, DC 5 V
Headphone jack
Stereo minijack
LANC control jack
Stereo mini-minijack (ø 2.5 mm)
MIC jack
Minijack, 0.388 mV low impedance with 2.5 to 3.0 V DC, output impedance 6.8 kilohms (ø 3.5 mm)
Stereo type

General

Power requirements
7.2 V (battery pack)
8.4 V (AC power adaptor)
Average power consumption
CCD-TR610E/TR810E:
4.2 W during camera recording
CCD-TR710E/TR760E/TR910E:
4.1 W during camera recording
Operating temperature
0°C to 40°C (32°F to 104°F)
Storage temperature
–20°C to +60°C (–4°F to +140°F)
Dimensions (Approx.)
CCD-TR610E/TR760E/TR810E:
104 x 109 x 202 mm
(4 1/4 x 4 3/8 x 8 in.)(w/h/d)
CCD-TR710E/TR910E
104 x 109 x 178 mm
(4 1/4 x 4 3/8 x 7 in.)(w/h/d)
Mass (Approx.)
800 g (1 lb 12 oz) excluding the battery pack, lithium battery, cassette and shoulder strap
940 g (2 lb 1 oz) including the battery pack NP-F530, lithium battery CR 2025, cassette E5/P5-90 and shoulder strap
Microphone
Stereo type

Supplied accessories
See page 3.

AC power adaptor

Power requirements
110 – 240 V AC, 50/60 Hz
Power consumption
25 W
Output voltage
DC OUT: 8.4 V, 1.9 A in operating mode
Battery charge terminal: 8.4 V, 1.4 A in charge mode
Application
Sony battery packs NP-F530, NP-F730 lithium ion type
Operating temperature
0°C to 40°C (32°F to 104°F)
Storage temperature
–20°C to +60°C (–4°F to +140°F)
Dimensions (Approx.)
81 x 45 x 163 mm (3 $^{1}/_{4}$ x 1 $^{13}/_{16}$ x 6 $^{1}/_{2}$ in.) (w/h/d) including projecting parts and controls
Mass (Approx.)
AC-V315: 480 g (1 lb 1 oz)
AC-V316: 560 g (1 lb 3 oz)

Design and specifications are subject to change without notice.

MICROFILM

8 VIDEO CAMERA RECODER
CCD-TR610E/TR710E

Hi8 VIDEO CAMERA RECODER
CCD-TR760E/TR810E/TR910E

SONY®

Table for difference of functions

Model		CCD-TR610E		CCD-TR710E	CCD-TR760E	CCD-TR810E	CCD-TR910E	
Destination		AEP, UK	E	E, AUS	AEP, UK	AEP, UK	E, HK, AUS, JE	
Classification		TYPE A	TYPE B	TYPE C	TYPE D	TYPE E	TYPE F	
Remote Commander		RMT-708			RMT-716		RMT-715	
Hi8					○	○	○	Note 1
Standard 8		○	○	○				
Lens	Optical	15 ×	15 ×	15 ×	15 ×	15 ×	15 ×	
	Digital	30 ×	60 ×	60 ×	30 ×	30 ×	60 ×	
STEADY SHOT		○	○	○		○	○	Note 2
Viewfinder		B/W EVF		Color EVF	B/W EVF	B/W EVF	Color EVF	Note 3
TBC & DNR					○	○	○	Note 4
Time Code					○	○	○	Note 5
VTR REC (Line in jack)			○	○			○	
Easy Connect					○	○		Note 6
Accessory Shoe	Intelligent				○	○	○	
	Standard	○	○	○				

Note 1: ○ (with S VIDEO terminal)
2: ○ (with SE-51 board)
3: B/W EVF (Monochrome, with VF-99 board)
Color EVF (with VF-95, VF-96, LB-45 and FP-394 board)
4: ○ (with IC115 of VC-177 board)
5: ○ (with IC128 of HI-39 board)
6: ○ (with EZ-21 board)

- Abbreviation
  AUS : Australian model
  HK : Hong Kong model
  JE : Tourist model

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

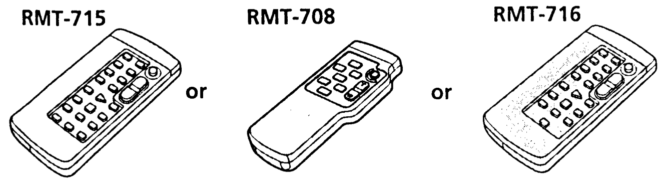
1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit board Repairing
   - Keep the temperature of the soldering iron around 270°C during repairing.
   - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
   - Be careful not to apply force on the conductor when soldering or unsoldering.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

Supplied accessories

1



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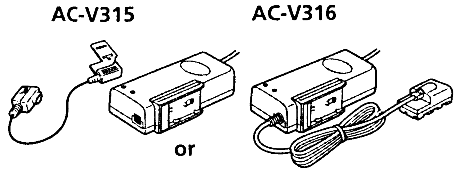

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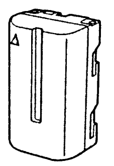

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CR2025
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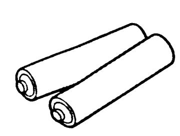

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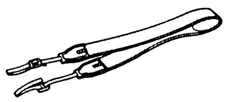

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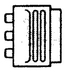

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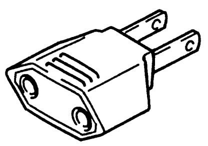

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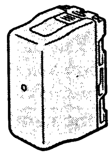


1 **Wireless Remote Commander** (1)
RMT-708 : CCD-TR610E/TR710E
RMT-715 : CCD-TR910E
RMT-716 : CCD-TR760E/TR810E

2 **AC power adaptor** (1)
AC-V315 : CCD-TR760E/TR810E
AC-V316 : CCD-TR610E/TR710E/TR910E

3 **NP-F530 Battery pack** (1)

4 **CR2025 Lithium Battery** (1)
The lithium battery is already installed in your camcorder.

5 **R6 (size AA) battery for Remote Commander** (2)

6 **A/V connecting cable** (1)

7 **Shoulder strap** (1)

8 **21 pin adaptor** (1)
CCD-TR610E: AEP, UK
CCD-TR760E: AEP, UK
CCD-TR810E: AEP, UK

9 **2 pin conversion adaptor** (1)
CCD-TR610E: E/TR710E: E/TR910E: E, HK, JE

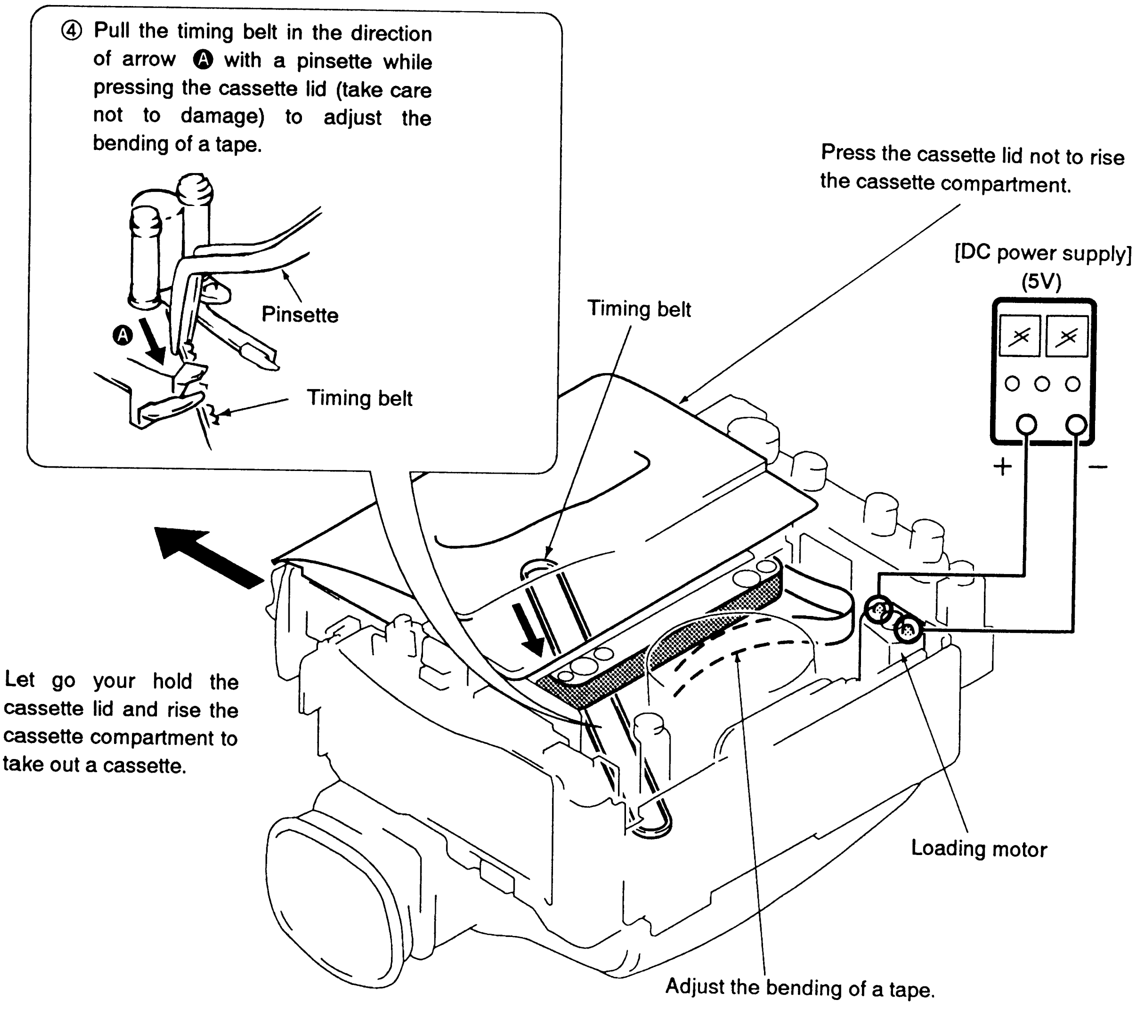
10 **Battery case** (1)
CCD-TR610E: AEP, UK
CCD-TR760E: AEP, UK
CCD-TR810E: AEP, UK

Note.
Australian model is abbreviated as AUS.
Hong Kong model is abbreviated as HK.
Tourist model is abbreviated as JE.

SERVICE NOTE

TO TAKE OUT A CASSETTE WHEN NOT EJECT (FORCE EJECT).

① Refer to 2-2. to remove the Front panel assembly.
② Refer to 2-3. to remove the Cabient (L) assembly.
③ Add +5V from the DC power supply and unload with a pressing the cassette lid.



④ Pull the timing belt in the direction of arrow Ⓐ with a pinsette while pressing the cassette lid (take care not to damage) to adjust the bending of a tape.

Ⓐ
Pinsette
Timing belt
Timing belt
[DC power supply]
(5V)
+
−
Loading motor

Press the cassette lid not to rise the cassette compartment.

⑤ Let go your hold the cassette lid and rise the cassette compartment to take out a cassette.

Adjust the bending of a tape.

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There is the color reproduction standard frame at the back of the book.

SECTION 1
GENERAL

This section is extracted from instruction manual of CCD-TR610E/TR760E/TR810E.

Using this manual

The instructions in this manual are for the three models listed below. Before you start reading this manual and operating the unit, check your model number by looking at the bottom of your camcorder. The CCD-TR810E is the model used for illustration purposes. Otherwise, the model name is indicated in the illustrations. Any differences in operation are clearly indicated in the text, for example, "CCD-TR810E only." As you read through this manual, buttons and settings on the camcorder are shown in capital letters.

e.g. Set the POWER switch to CAMERA.

As indicated with ♪ in the illustrations, you can hear the beep sound to confirm your operation.

Type of differences

Model number	CCD-TR610E	CCD-TR760E	CCD-TR810E
System Hi8/8	8 (quasi playback)	Hi8	Hi8
Easy connection	—	•	•
Battery charging (when it is installed in the camcorder)	—	•	•
Steady Shot	•	—	•
Index	—	•	•
RC time code	—	•	•
Data code	—	•	•
Intelligent accessory shoe	—	•	•
Auto Date	•	—	—
Remote Commander	RMT-708	RMT-716	RMT-716

Note on TV colour systems

TV colour systems differ from country to country. To view your recordings on a TV, you need a PAL system-based TV.

Utilización de este manual

Las instrucciones de este manual abarcan los tres modelos de la tabla siguiente. Antes de leer el manual y utilizar la videocámara, vea el nombre de su modelo en la base de la misma. Las ilustraciones de este manual son de la CCD-TR810E pero cuando sean de otra, su nombre de modelo se indicará en la ilustración. Cualquier diferencia en cuanto a la operación, se indicará claramente en el texto, por ejemplo, "CCD-TR810E solamente".

Las teclas y ajustes de la videocámara aparecen en mayúsculas en todo el manual.

Ej. Ponga el selector POWER en CAMERA.

Como se indica mediante la marca ♪ en las ilustraciones, podrá oír los pitidos para confirmar su operación.

Diferencias en tipo

Nombre del modelo	CCD-TR610E	CCD-TR760E	CCD-TR810E
Sistema Hi8/8	8 (cuasi reproducción)	Hi8	Hi8
Conexión fácil	—	•	•
Carga de la batería (colocada en la videocámara)	—	•	•
Videofilmación estable	•	—	•
Indice	—	•	•
Código de tiempo RC	—	•	•
Código de datos	—	•	•
Zapata de alimentación de accesorios	—	•	•
Fecha automática	•	—	—
Telemando	RMT-708	RMT-716	RMT-716

Nòta sobre los sistemas de televisión en color

Los sistemas de televisión en color difieren de acuerdo con los países. Para ver su videofilmación en un televisor, éste deberá estar basado en el sistema PAL.

Precaution on copyright

Television programmes, films, video tapes, and other materials may be copyrighted. Unauthorized recording of such materials may be contrary to the provision of the copyright laws.

Precautions on camcorder care

- Do not let sand get into the camcorder. When you use the camcorder on a sandy beach or in a dusty place, protect it from the sand or dust. Sand or dust may cause the unit to malfunction, and sometimes this malfunction cannot be repaired [a].
- Do not let the camcorder get wet. Keep the camcorder away from rain and sea water. Letting the camcorder get wet may cause the unit to malfunction, and sometimes this malfunction cannot be repaired [b].
- Never leave the camcorder exposed to temperatures above 60°C (140°F), such as in a car parked in the sun or under direct sunlight [c].

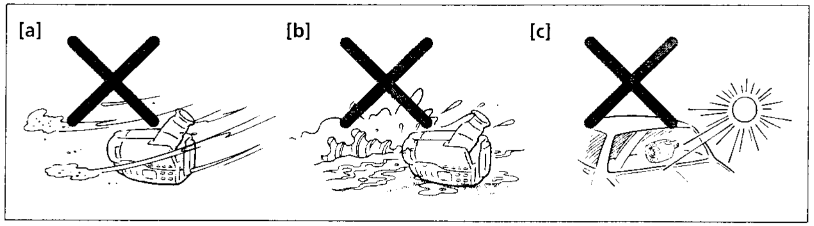
Precaución sobre los derechos de autor

Los programas de televisión, películas, videocintas y demás materiales pueden tener reservado el derecho de reproducción.

La grabación no autorizada de tales materiales puede ir en contra de lo dispuesto por las leyes de derechos de autor.

Precauciones sobre los cuidados de la videocámara

- No permita que entre arena en la videocámara. Cuando utilice la videocámara en una playa arenosa o en un lugar polvoriento, protéjala de la arena o del polvo. La arena o el polvo pueden causar mal funcionamientos que a veces no podrán repararse. [a]
- No deje que la videocámara se moje. Proteja la videocámara de la lluvia o del agua de mar. Pueden causar mal funcionamientos que a veces no podrán repararse. [b]
- No deje la videocámara a temperaturas superiores a 60°C, como en el interior de un automóvil aparcado al sol o bajo la luz solar directa. [c]



Contents of the recording cannot be compensated if recording or playback is not made due to a malfunction of the camcorder, video tape, etc.

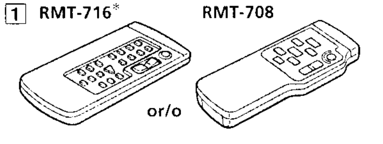
El contenido de la grabación no podrá remunerarse si la grabación o reproducción no se realiza debido a un mal funcionamiento de la videocámara, el videocassette, etc.

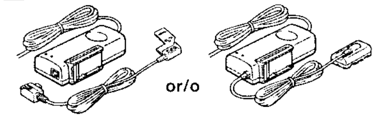
Checking supplied accessories

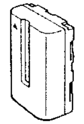
Check that the following accessories are supplied with your camcorder.

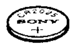
Comprobación de los accesorios suministrados

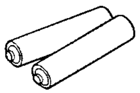
Compruebe si los siguientes accesorios están incluidos con su videocámara.

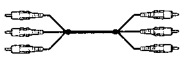
1 

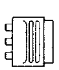
2 

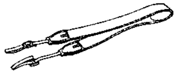
3 

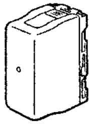
4 

5 

6 

7 

8 

9 

1 **Wireless Remote Commander** (1) (p.101)
  * for Hi8 model

2 **AC power adaptor** (1) (p.8, 27)
  * for Hi8 model

3 **NP-F530 Battery pack** (1) (p.8, 27)

4 **CR2025 Lithium Battery** (1) (p.70)
  The lithium battery is already installed in your camcorder.

5 **R6 (size AA) battery for Remote Commander** (2) (p.102)

6 **A/V connecting cable** (1) (p.21, 22)

7 **21 pin adaptor** (1) (p.22)

8 **Shoulder strap** (1) (p.103)

9 **Battery case** (1) (p.29)

1 **Telemando inalámbrico** (1) (pág.101)
  * Para el modelo Hi8

2 **Adaptador de alimentación de CA** (1) (pág.8, 27)
  * Para el modelo Hi8

3 **Batería NP-F530** (1) (pág.8, 27)

4 **Pila de litio CR2025** (1) (pág.70)
  La pila de litio ya está insertada en su videocámara.

5 **Pilas R6 (tamaño AA) para el telemando** (2) (pág.102)

6 **Cable conector de audio/vídeo** (1) (pág.21, 22)

7 **Adaptador de 21 terminales** (1) (pág.22)

8 **Bandolera** (1) (pág.103)

9 **Caja de pilas** (1) (pág.29)

Getting started

Charging and installing the battery pack

Before using your camcorder, you first need to charge and install the battery pack. To charge the battery pack, use the supplied AC power adaptor.

This camcorder operates with the "InfoLITHIUM" battery labeled ⓘ InfoLITHIUM such as NP-F530/F730. If you use any other battery to operate your camcorder, the camcorder may not operate or the battery life may be shortened.

"InfoLITHIUM" is a trade mark of Sony Corporation.

Charging the battery pack

Charge the battery pack on a flat surface without vibration.

(1) Connect the mains lead to mains.

(2) Align the surface of the battery pack indicated by the ▶ mark with the edge of the terminal shutter of the AC power adaptor. Then fit and slide the battery pack in the direction of the arrow. The CHARGE lamp (orange) lights up. Charging begins.

When the CHARGE lamp goes out, **normal charge** is completed. For **full charge**, which allows you to use the battery longer than usual, leave the battery pack in place for approximately one hour. Unplug the unit from the mains, then remove the battery pack and install it into the camcorder. You can also use the battery pack before it is completely charged.

Preparativos

Carga y fijación de la batería

Antes de utilizar la videocámara, primero tendrá que cargar y colocar la batería. Para cargar la batería, utilice el adaptador de alimentación de CA suministrado.

Esta videocámara funciona con baterías "InfoLITHIUM" con la marca ⓘ InfoLITHIUM como la NP-F530/F730. Si utiliza cualquier otro tipo de batería para alimentar la videocámara, es posible que la videocámara no funcione o la vida útil de la batería se acorte.

"InfoLITHIUM" es marca registrada de Sony Corporation.

Carga de la batería

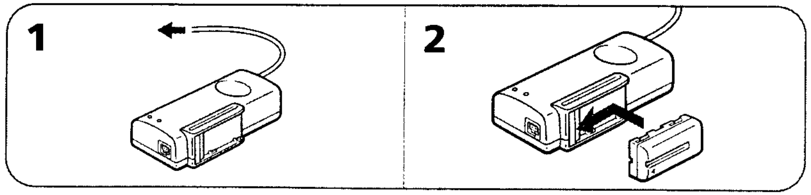
Cargue la batería en un lugar nivelado y exento de vibraciones.

(1) Conecte el cable de alimentación a una toma de la red.

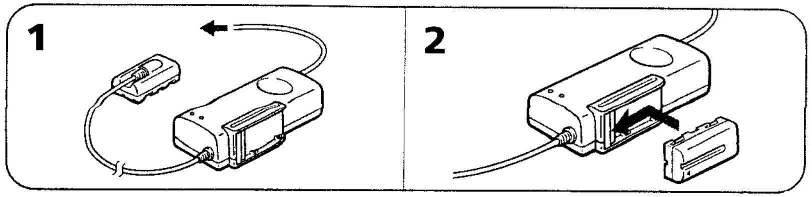
(2) Alinee la superficie de la batería indicada con la marca ▶ con el borde del obturador de terminal del adaptador de alimentación de CA. Después encaje y deslice la batería en el sentido de la flecha. Se encenderá la lámpara CHARGE (anaranjada) y la carga comenzará.

Cuando la lámpara CHARGE se apague, terminará la **carga normal**. Para la **carga completa**, que le permite utilizar la batería más de lo usual, deje la batería en su lugar durante aproximadamente una hora más. Desenchufe la unidad de la toma de la red, quite la batería e instálela en la videocámara. Usted también podrá utilizar la batería antes de que la misma se haya cargado por completo.

AC-V315



AC-V316



Charging time

Battery pack	Charging time* (min.)
NP-F530 (supplied)	170 (110)
NP-F730	250 (190)

* Approximate minutes to charge an empty battery pack using the supplied AC power adaptor (full charge). (Lower temperatures require a longer charging time.)

The time required for a normal charge is indicated in parentheses.

Battery life

CCD-TR610E/TR810E

Battery pack	Continuous recording time* (min.)	Typical recording time** (min.)
NP-F530 (supplied)	115 (105)	70 (65)
NP-F730	265 (240)	160 (145)

CCD-TR760E

Battery pack	Continuous recording time* (min.)	Typical recording time** (min.)
NP-F530 (supplied)	120 (105)	70 (65)
NP-F730	270 (240)	160 (145)

Numbers before the parentheses indicate the time when you use a fully charged battery.

Numbers in the parentheses indicate the time when you use a normal charged battery.

* Approximate continuous recording time indoors.

** Approximate minutes when recording while you repeat recording start/stop, zooming and turning the power on/off. The actual battery life may be shorter.

Tiempo de carga

Batería	Tiempo de carga* (min.)
NP-F530 (suministrada)	170 (110)
NP-F730	250 (190)

* Minutos aproximados para cargar una batería agotada utilizando el adaptador de alimentación de CA suministrado (carga completa). (A bajas temperaturas, el tiempo de carga será más largo.)

El tiempo requerido para la carga normal se indica entre paréntesis.

Duración de la batería

CCD-TR610E/TR810E

Batería	Tiempo de videofilmación continua* (min.)	Tiempo de videofilmación típica** (min.)
NP-F530 (suministrada)	115 (105)	70 (65)
NP-F730	265 (240)	160 (145)

CCD-TR760E

Batería	Tiempo de videofilmación continua* (min.)	Tiempo de videofilmación típica** (min.)
NP-F530 (suministrada)	120 (105)	70 (65)
NP-F730	270 (240)	160 (145)

Los números que están fuera del paréntesis indican el tiempo empleando una baería completamente cargada.

Los números entre paréntesis indica el tiempo cuando utilice una batería cargada normalmente.

* Tiempo aproximado de videofilmación continua en interiores.

** Minutos aproximados cuando se grabe repitiendo el inicio/parada de la grabación, el zoom y la conexión/desconexión de la alimentación. Es posible que la duración de la batería actual sea más corta.

Charging and installing the battery pack

Note on remaining battery time indication during recording

When you use the InfoLITHIUM battery pack, remaining battery time is displayed in the viewfinder. However, the indication may not be displayed properly, depending on using conditions and circumstances.

To remove the battery pack

Slide the battery pack in the direction of the arrow.

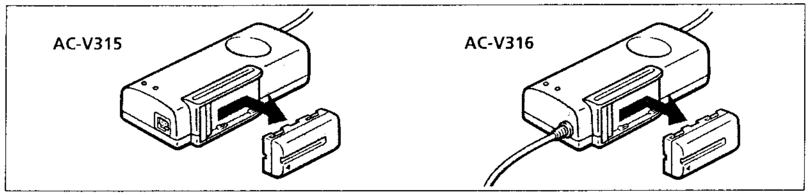
Carga y fijación de la batería

Nota sobre la indicación de tiempo restante de la batería durante la grabación

Cuando utilice una batería InfoLITHIUM, en el visor se visualizará el tiempo restante de la batería. Pero, es posible que la indicación no se visualice adecuadamente según la forma que se utilice y las circunstancias.

Para quitar la batería

Deslícela en el sentido de la flecha.



Notes on charging the battery pack

- The CHARGE lamp will remain lit for a while even if the battery pack is removed and the mains lead is unplugged after charging the battery pack. This is normal.
- If the CHARGE lamp does not light, disconnect the mains lead. After about one minute, reconnect the mains lead again.
- You cannot operate the camcorder using the AC power adaptor while charging the battery pack.
- When a fully charged battery pack is installed, the CHARGE lamp will light once, then go out.

Notas sobre la carga de la batería

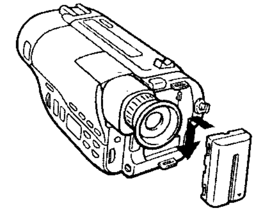
- Es normal que la lámpara CHARGE permanezca encendida durante un momento después de que haya quitado la batería y desconectado el cable de alimentación cuando finalice la carga.
- Si la lámpara CHARGE no se enciende, desconecte el cable de alimentación. Después de aproximadamente un minuto, vuelva a conectar el cable.
- No podrá operar la videocámara empleando el adaptador de alimentación de CA mientras esté cargando la batería.
- Cuando se instale una batería completamente cargada, la lámpara CHARGE se encenderá y luego se apagará.

Installing the battery pack

Align the prongs of the battery pack with the receptacles of the camcorder and slide the battery pack down until it catches on the battery release lever and clicks.

Fijación de la batería

Alinee las uñas de la batería con los receptáculos de la videocámara y deslice la batería hacia abajo hasta que se quede encajada en la palanca de liberación de la batería y chasquee.

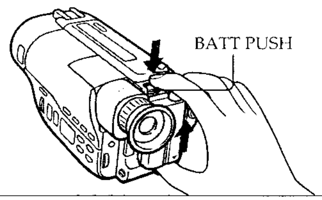


To remove the battery pack

While pressing the BATT (battery) PUSH button, slide the battery pack in the direction of the arrow.

Para quitar la batería

Manteniendo presionada la tecla BATT PUSH (liberación de la batería), deslice la batería en el sentido de la flecha.



Inserting a cassette

Make sure that the power source is installed. When you want to record in the Hi8 system, use Hi8 video cassette **Hi8** (for CCD-TR760E/TR810E only).

(1) While pressing the small blue button on the EJECT switch, slide it in the direction of the arrow. The cassette compartment automatically lifts up and opens.

(2) Insert a cassette with the window facing out.

(3) Close the cassette compartment by pressing the "PUSH" mark on the cassette compartment. The cassette compartment automatically goes down.

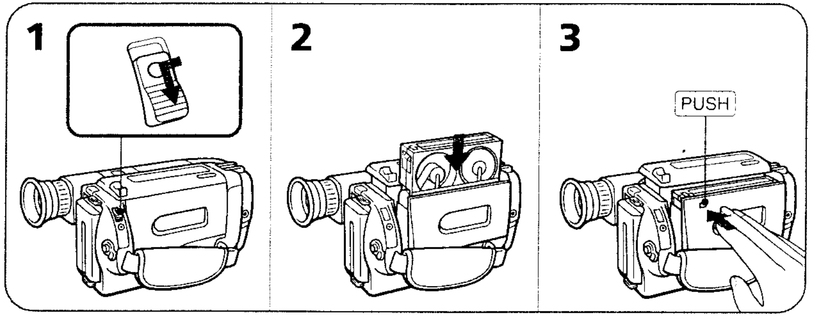
Inserción de un videocassette

Asegúrese de que haya una fuente de alimentación conectada a la videocámara. Para grabar en el sistema Hi8, utilice un videocassette Hi8 **Hi8** (para la CCD-TR760E/TR810E solamente).

(1) Manteniendo presionado el pequeño botón azul en el interruptor EJECT, deslícelo en el sentido de la flecha. El compartimiento del videocassette se elevará y abrirá automáticamente.

(2) Inserte un videocassette con la ventanilla hacia afuera.

(3) Cierre el compartimiento del videocassette presionando la marca "PUSH" en el mismo. El compartimiento se bajará automáticamente.



To eject the cassette

While pressing the small blue button on the EJECT switch, slide it in the direction of the arrow.

Para expulsar el videocassette

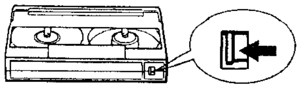
Manteniendo presionado el pequeño botón azul en el interruptor EJECT, deslícelo en el sentido de la flecha.

To prevent accidental erasure

Slide the tab on the cassette to expose the red mark. If you insert the cassette with the red mark exposed and close the cassette compartment, the beeps sound for a while. If you try to record with the red mark exposed, the 📼 and ⏏ indicators flash in the viewfinder, and you cannot record. To re-record on this tape, slide the tab back out covering the red mark.

Para prevenir el borrado accidental

Deslice la lengüeta del videocassette de forma que la marca roja quede al descubierto. Si inserta un videocassette con la marca roja al descubierto y cierra el compartimiento del videocassette, sonarán los pitidos durante un momento. Si intenta grabar con la marca roja al descubierto, en el visor parpadearán los indicadores 📼 y ⏏, y no podrá grabar. Para volver a grabar en esta cinta, deslice la lengüeta de forma que se cubra la marca roja.



Basic operations

Camera recording

Operaciones básicas

Videofilmación

Make sure that the power source is installed, a cassette is inserted and that the START/STOP MODE switch is set to ⊻. Before you record one-time events, you may want to make a trial recording to make sure that the camcorder is working correctly.

When you use the camcorder for the first time, power on it and reset the date and time to your time before you start recording. (p.72)

The date is automatically recorded for 10 seconds after you start recording (**AUTO DATE feature** —CCD-TR610E only).

(1) While pressing the small green button on the POWER switch, set it to CAMERA.

(2) Turn STANDBY up.

(3) Press START/STOP. The camcorder starts recording. The "REC" indicator appears and the red lamp lights up in the viewfinder. The camera recording/battery lamps located on the front light up.
The AUTO DATE indicator appears (CCD-TR610E only).

Asegúrese de que la fuente de alimentación esté instalada, haya un videocassette insertado y el selector START/STOP MODE esté en ⊻. Antes de realizar videofilmaciones irrepetibles, quizá desee realizar una filmación de prueba para comprobar si la videocámara funciona correctamente.

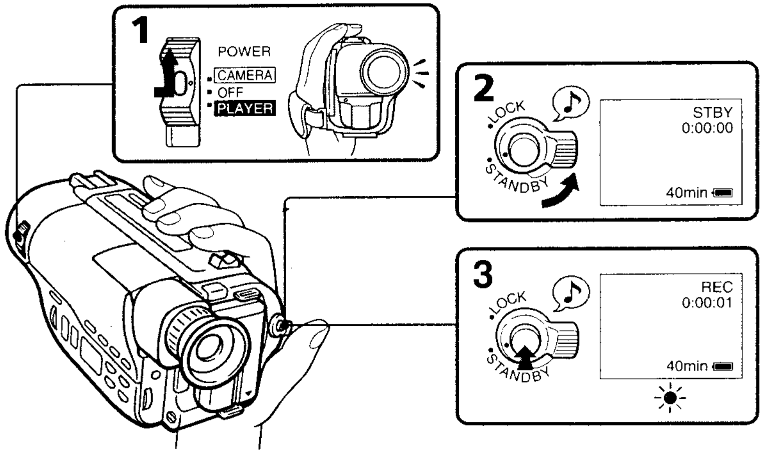
Cuando vaya a utilizar la videocámara por primera vez, conecte la alimentación y reponga la fecha y la hora antes de comenzar a filmar (pág.72).

La fecha se grabará automáticamente durante 10 segundos a partir del inicio de la videofilmación (**función AUTO DATE** —CCD-TR610E solamente).

(1) Manteniendo presionado el pequeño botón verde en el selector POWER, póngalo en CAMERA.

(2) Gire STANDBY hacia arriba.

(3) Presione START/STOP. La videocámara comenzará a grabar. En el visor aparecerá el indicador "REC" y se encenderá la lámpara roja. Las lámparas de videofilmación/estado de la batería ubicadas en la parte frontal de la videocámara se encenderán también.
El indicador AUTO DATE aparecerá (CCD-TR610E solamente).



To stop recording momentarily [a]

Press START/STOP again. The "STBY" indicator appears in the viewfinder (**Standby mode**).

To finish recording [b]

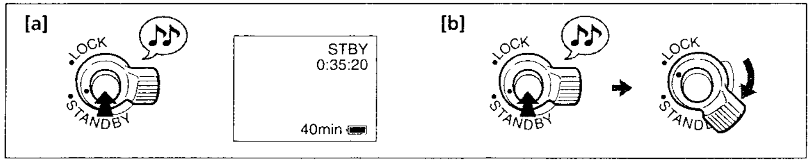
Press START/STOP again. Turn STANDBY down and set the POWER switch to OFF. Then, eject the cassette and remove the battery pack.

Para detener momentáneamente la grabación [a]

Presione otra vez START/STOP. En el visor aparecerá el indicador "STBY" (**Modo de espera**).

Para finalizar la grabación [b]

Vuelva a presionar START/STOP. Gire STANDBY hacia abajo y ponga el selector POWER en OFF. Después extraiga el videocassette y quite la batería.

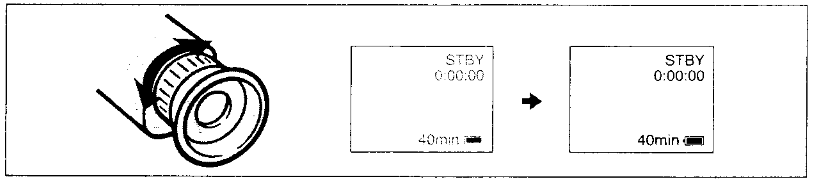


To focus the viewfinder lens

If you cannot see the indicators in the viewfinder clearly, or after someone else has used the camcorder, focus the viewfinder lens. Turn the viewfinder lens adjustment ring so that the indicators in the viewfinder come into sharp focus.

Para enfocar la lente del visor

Si no puede ver claramente los indicadores en el visor, o cuando emplee la videocámara después de que otra persona la haya utilizado, enfoque la lente del visor. Mueva el anillo de ajuste de la lente del visor para que los indicadores del visor puedan verse claramente.



Note on Standby mode

If you leave the camcorder in Standby mode for 5 minutes while the cassette is inserted, the camcorder turns off automatically. This prevents wearing down the battery and wearing out the tape. To resume Standby mode, turn STANDBY down and up again. To start recording, press START/STOP.

Nota sobre el modo de espera

Si deja la videocámara en el modo de espera durante 5 minutos con el videocassette insertado, la videocámara se apagará automáticamente. Esto evitará que la batería y el videocassette se desgasten. Para restablecer el modo de espera, gire una vez STANDBY hacia abajo y después otra vez hacia arriba. Para comenzar a grabar, presione START/STOP.

Notes on recording mode

- This camcorder records and plays back in SP (standard play) mode and in LP (long play) mode. However, the playback quality in LP mode will not be as good as that in SP mode.
- When a tape recorded on this camcorder in LP mode is played back on other types of 8mm camcorders or VCRs, the playback quality may not be as good as that on this camcorder.

Note on recording

When you record from the beginning of a tape, run the tape for about 15 seconds before starting the actual recording. This will ensure that you won't miss any start-up scenes when you play back the tape.

Notes on the tape counter

- The tape counter indicates the recording or playback time. Use it as a guide. There will be a time lag of several seconds from the actual time. To set the counter to zero, press COUNTER RESET.
- If the tape is recorded in SP and LP modes mixed, the tape counter shows incorrect recording time. When you intend to edit the tape using the tape counter, record in same (SP or LP) mode.

Note on the beep sound

As indicated with ♪ in the illustration, a beep sounds when you turn the power on or when you start recording, and two beeps sound when you stop recording, confirming the operation. Several beeps also sound as a warning of any unusual condition of the camcorder.
Note that the beep sound is not recorded on the tape. If you do not want to hear the beep sound, select "OFF" in the menu system.

Notas sobre el modo de grabación

- Esta videocámara graba y reproduce en los modos SP (duración estándar) y LP (duración larga). La calidad de las imágenes reproducidas en el modo LP no será tan buena como en el modo SP.
- Cuando reproduzca una cinta grabada en esta videocámara con el modo LP en otros tipos de videocámaras o videograbadoras de 8mm, es posible que la calidad de las imágenes no sea tan buena como en esta videocámara.

Nota sobre la grabación

Cuando grabe desde el comienzo de la cinta, haga que ésta avance unos 15 segundos antes de comenzar la videofilmación actual. Esto evitará que se pierdan las escenas iniciales cuando se reproduzca la cinta.

Notas sobre el contador de la cinta

- El contador de la cinta indicará el tiempo de grabación o reproducción. Empléelo como una guía. Es posible que exista una diferencia de varios segundos del tiempo real. Para ajustar el contador a cero, presione COUNTER RESET.
- Si la cinta está grabada con los modos SP y LP mezclados, el contador de la cinta indicará un tiempo de grabación incorrecto. Cuando desee editar la cinta utilizando el contador de la cinta, grabe con el mismo modo (SP o LP).

Nota sobre el pitido

Como se indica con la marca ♪ en las ilustraciones de este manual, cuando conecte la alimentación o cuando comience la videofilmación, sonará un pitido, y cuando pare la videofilmación sonarán dos pitidos para confirmar la operación. También sonarán varios pitidos como advertencia de una condición anormal de la videocámara.
Tenga en cuenta que los pitidos no se grabarán en la cinta. Si no desea oír los pitidos, seleccione "OFF" en el sistema del menú.

Note on the AUTO DATE feature —CCD-TR610E only

The clock is set at the factory to London time for United Kingdom and to Paris time for the other European countries. You can reset the clock in the menu system. You can change the AUTO DATE settings by selecting ON or OFF in the menu system. The AUTO DATE feature shows the date automatically once a day.
However, the date may automatically appear more than once a day when:
- you reset the date and time.
- you eject and insert the tape again.
- you stop recording within 10 seconds.
- you set AUTO DATE to OFF once and set it to ON again in the menu system.

When moving from indoors to outdoors (or vice versa)

Turn STANDBY up and point the camcorder at a white object for about 15 seconds so that the white balance is properly adjusted.

Using the zoom feature

Zooming is a recording technique that lets you change the size of the subject in the scene.
For more professional-looking recordings, use the zoom function sparingly.
"T" side: for telephoto (subject appears closer)
"W" side: for wide-angle (subject appears farther away)

Nota sobre la función AUTO DATE —CCD-TR610E solamente

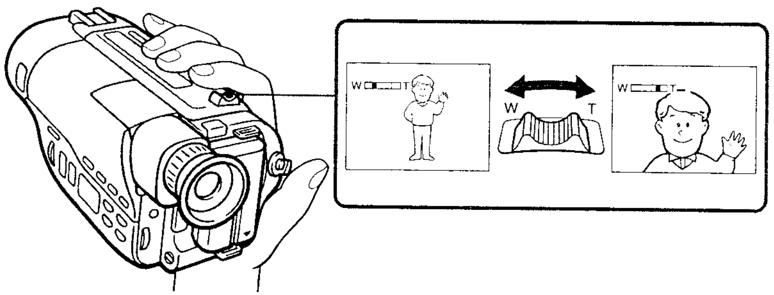
El reloj está ajustado en fábrica a la hora de Londres para los modelos destinados al Reino Unido y a la de París para otros modelos europeos. El reloj podrá reajustarse mediante el sistema del menú. Cambie el ajuste de AUTO DATE seleccionando ON u OFF en el sistema del menú. La función AUTO DATE indicará automáticamente la fecha una vez al día.
Sin embargo, la fecha aparecerá automáticamente más de una vez al día cuando:
- reajuste la fecha y la hora.
- extraiga y vuelva a insertar el videocassette.
- pare la grabación antes de 10 segundos.
- ponga una vez AUTO DATE en OFF y después vuelva a ponerlo en ON en el sistema del menú.

Cuando se mueva del interior al exterior (o viceversa)

Gire STANDBY hacia arriba y apunte con la videocámara hacia un objeto blanco durante unos 15 segundos de forma que el equilibrio del blanco se ajuste apropiadamente.

Empleo del zoom

El zoom es una técnica de videofilmación que le permite cambiar el tamaño del motivo en la escena.
Para que sus grabaciones tengan una apariencia más profesional, utilice el zoom en forma limitada.
Lado "T": para telefoto (el motivo se ve cercano)
Lado "W": para gran angular (el motivo se ve lejano)



Zooming speed (Variable speed zooming)

Move the power zoom lever a little for a relatively slow zoom. To speed up the zooming move the lever further.

When you shoot a subject using a telephoto zoom

If you cannot get a sharp focus while in extreme telephoto zoom, move the power zoom lever to the "W" side until the focus is sharp. You can shoot a subject that is at least about 80cm (about 2 $^{5}/_{8}$ feet) away from the lens surface in the telephoto position, or about 1cm (about $^{1}/_{2}$ inch) away in the wide-angle position.

Notes on digital zoom

- More than 15x zoom is performed digitally (x30), and the picture quality deteriorates as you go toward the "T" side. If you do not want to use the digital zoom, set the D ZOOM function to OFF in the menu system.
- The right side **[a]** in the power zoom indicator shows the digital zooming zone, and the left side **[b]** shows the optical zooming zone. If you set the D ZOOM function to OFF, the **[a]** zone disappears.

Velocidad del zoom (zoom con velocidad variable)

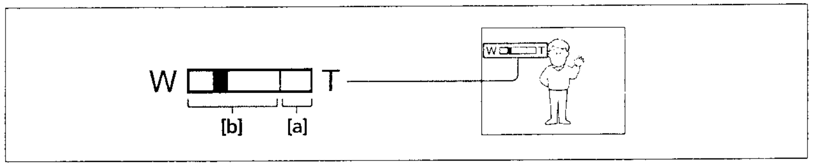
Mueva un poco la palanca del zoom motorizado para efectuar el zoom a una velocidad relativamente lenta.
Para hacerlo a una velocidad más rápida, mueva la palanca más.

Cuando videofilme un motivo empleando el acercamiento con el zoom

Si no puede enfocar nítidamente cuando videofilme con el zoom en el extremo de telefoto, mueva la palanca del zoom motorizado hacia el lado "W" hasta enfocar nítidamente. En la posición de telefoto, podrá videofilmar un motivo que esté por lo menos a 80 cm de la superficie del objetivo, y a 1 cm aproximadamente en la posición de gran angular.

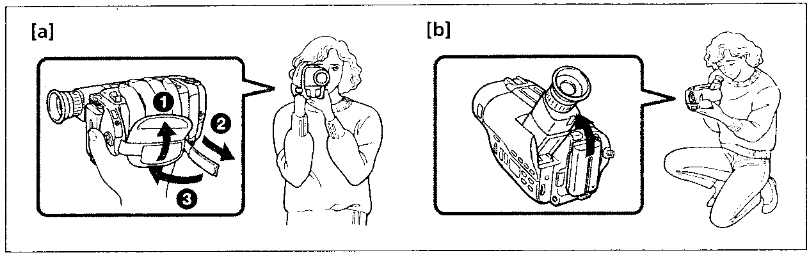
Notas sobre el zoom digital

- El zoom de más de 15x se realizará digitalmente (x30), y la calidad de la imagen se deteriorará al avanzar hacia el lado "T". Si no desea utilizar el zoom digital, ajuste la función D ZOOM a OFF en el sistema del menú.
- El lado derecho **[a]** en el indicador del zoom motorizado indica la zona del zoom digital y el lado izquierdo **[b]** indica la zona del zoom óptico. Cuando ajuste la función D ZOOM a OFF, la zona **[a]** desaparecerá.



Hints for better shooting

For hand-held shots, you'll get better results by holding the camcorder according to the following suggestions:



- Hold the camcorder firmly and secure it with the grip strap so that you can easily manipulate the controls with your thumb **[a]**.
- Place your right elbow against your side.
- Place your left hand under the camcorder to support it. Be sure not to touch the built-in microphone.
- Place your eye firmly against the viewfinder eyecup.
- Use the viewfinder frame as a guide to determine the horizontal plane.
- You can also record in a low position to get an interesting angle. Lift the viewfinder up for recording from a low position **[b]**.

Place the camcorder on a flat surface or use a tripod

Try placing the camcorder on a table top or any other flat surface of suitable height. If you have a tripod for a still camera, you can also use it with the camcorder.
When attaching a non-Sony tripod, make sure that the length of the tripod screw is less than 6.5 mm ($^{9}/_{32}$ inch). Otherwise, the screw may damage the inner parts of the camcorder.

Consejos para videofilmar mejor

Para videofilmar con la videocámara en las manos, podrá obtener mejores imágenes sujetándola como se indica a continuación:

- Sujete la videocámara firmemente y asegúrela con la correa de la empuñadura de modo que pueda manipular fácilmente los controles con el pulgar. **[a]**
- Coloque su codo derecho firmemente contra su costado.
- Coloque su mano izquierda debajo de la videocámara para sostenerla. Cerciórese de no tocar el micrófono incorporado.
- Apoye el ocular del visor de la videocámara firmemente contra su ojo.
- Para determinar el plano horizontal, utilice el cuadro del visor como referencia.
- Para obtener un ángulo de videofilmación interesante, usted también podrá grabar desde una posición baja. Para grabar desde una posición baja, gire el visor hacia arriba. **[b]**

Coloque la videocámara en una superficie plana o utilice un trípode

Pruebe colocando la videocámara sobre una mesa u otra superficie plana de altura adecuada. Si posee un trípode para cámara fotográfica, podrá emplearlo también con esta videocámara. Cuando emplee un trípode que no sea de Sony, asegúrese de que la longitud del tornillo del trípode sea inferior a 6,5 mm. De lo contrario, el tornillo podría dañar las partes internas de la videocámara.

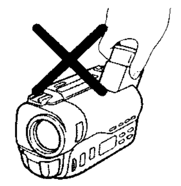
Cautions on the viewfinder

- Do not pick up the camcorder by the viewfinder **[c]**.
- Do not place the camcorder so as to point the viewfinder toward the sun. The inside of the viewfinder may be damaged. Be careful when placing the camcorder under sunlight or by a window **[d]**.

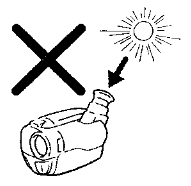
Precauciones sobre el visor

- No sujete la videocámara por el visor. **[c]**
- No deje la videocámara con el visor apuntando hacia el sol. Es posible que el interior del visor se deforme. Tenga cuidado al dejar la videocámara bajo el sol o cerca de una ventana. **[d]**

[c]



[d]



Checking the recorded picture

Using EDITSEARCH, you can review the last recorded scene or check the recorded picture in the viewfinder.

(1) While pressing the small green button on the POWER switch, set it to CAMERA.

(2) Turn STANDBY up.

(3) Press the – (⊜) side of EDITSEARCH momentarily; the last few seconds of the recorded portion play back (**Rec Review**). Hold down the – side of EDITSEARCH until the camcorder goes back to the scene you want. The last recorded portion is played back. To go forward, hold down the + side (**Edit Search**).

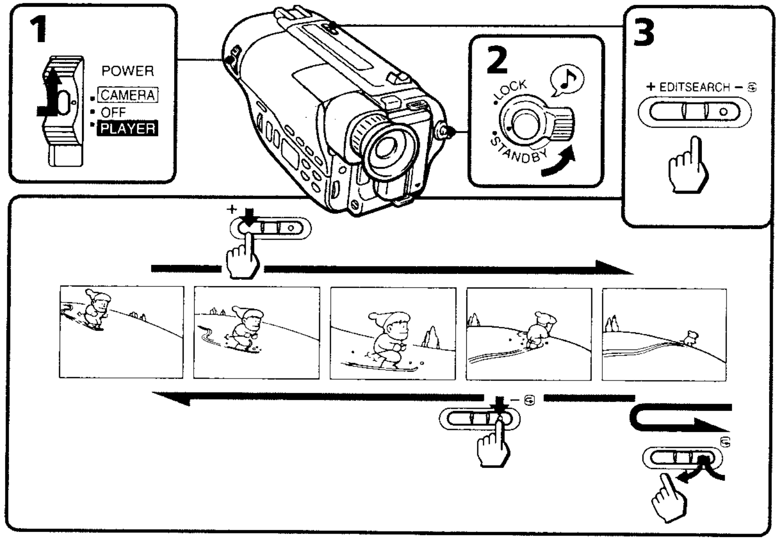
Verificación de las imágenes grabadas

Utilizando EDITSEARCH, usted podrá revisar la última escena grabada o comprobar la imagen grabada en el visor.

(1) Manteniendo presionado el pequeño botón verde en el selector POWER, póngalo en CAMERA.

(2) Gire STANDBY hacia arriba.

(3) Presione momentáneamente el lado – (⊜) de EDITSEARCH; se reproducirán los últimos segundos de la parte filmada (**Revisión de la grabación**).
Mantenga presionado el lado – de EDITSEARCH hasta que la videocámara retroceda a la escena deseada. Se reproducirá la última parte grabada. Para avanzar la cinta, mantenga presionado el lado + (**Búsqueda de edición**).



To stop playback

Release EDITSEARCH.

To begin re-recording

Press START/STOP. Re-recording begins from the point you released EDITSEARCH. Provided you do not eject the cassette, the transition between the last scene you recorded and the next scene you record will be smooth.

Para cesar la reproducción

Suelte EDITSEARCH.

Para reanudar la grabación

Presione START/STOP. La grabación se iniciará desde el punto en el que soltó EDITSEARCH. Mientras no extraiga el videocassette, la transición entre la última escena grabada y la siguiente será uniforme.

Connections for playback

You can use this camcorder as a VCR by connecting it to your TV for playback. There are some ways to connect the camcorder to your TV. When monitoring the playback picture by connecting the camcorder to your TV, we recommend you to use mains for the power source.

Connecting directly to a VCR/TV with Video/Audio input jacks

When connecting the A/V connecting cable, make sure you connect the plugs to jacks of the same colour.

If your TV is already connected to a VCR

Open the jack cover and connect the camcorder to the LINE IN inputs on the VCR by using the supplied A/V connecting cable. Set the input selector on the VCR to LINE. Set the TV/VCR selector on the TV to VCR. If you are going to connect the camcorder using the S video cable (not supplied) **[a]**, you do not need to connect the yellow (video) plug of the A/V connecting cable **[b]** (CCD-TR760E/TR810E only).

Conexiones para la reproducción

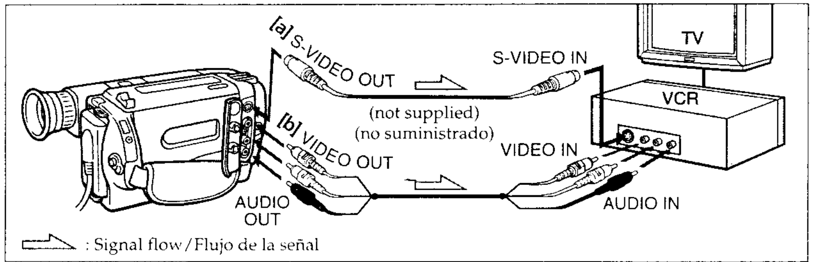
Para la reproducción, usted podrá utilizar esta videocámara para que funcione como videograbadora conectándola a su televisor. Existen varios métodos para conectar la videocámara al televisor. Para ver las imágenes reproducidas conectando la videocámara al televisor, se recomienda utilizar la corriente de la red como fuente de alimentación.

Conexión directa a una videograbadora/televisor provisto de tomas de entrada de vídeo/audio

Cuando conecte el cable conector de audio/vídeo, cerciórese de conectar las clavijas a las tomas del mismo color.

Si el televisor está conectado a una videograbadora

Abra la tapa de las tomas y conecte la videocámara a las entradas LINE IN de la videograbadora utilizando el cable conector de audio/vídeo suministrado. Ponga el selector de entrada de la videograbadora en LINE. Ponga el selector TV/VCR del televisor en VCR. Cuando conecte la videocámara empleando un cable de vídeo S (no suministrado) **[a]**, no será necesario conectar la clavija amarilla (vídeo) del cable conector de audio/vídeo **[b]** (CCD-TR760E/TR810E solamente).



: Signal flow/Flujo de la señal

Connections for playback

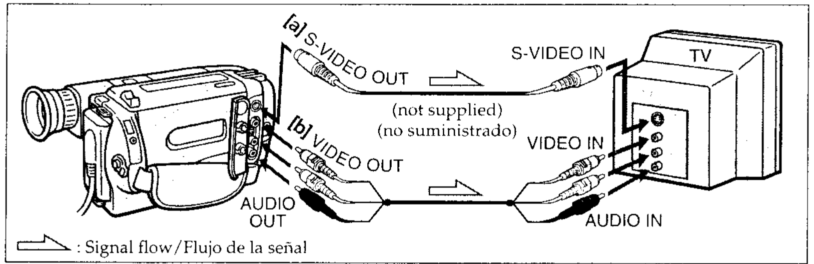
If you connect directly to TV

Open the jack cover and connect the camcorder to the inputs on the TV by using the supplied A/V connecting cable. Set the TV/VCR selector on the TV to VCR.

Conexiones para la reproducción

Conexión directa al televisor

Abra la tapa de las tomas y conecte la videocámara a las entradas del televisor empleando el cable conector de audio/vídeo suministrado. Ponga el selector TV/VCR en el televisor en VCR.



: Signal flow/Flujo de la señal

If your VCR or TV is a monaural type

Connect only the white plug for audio on both the camcorder and the VCR or the TV. With this connection, the sound is monaural.

To connect to a VCR or TV without Video/Audio input jacks

Use an RFU adaptor (not supplied).

If your TV/VCR has a 21-pin connector (EUROCONNECTOR)

Use the supplied 21-pin adaptor.

Si su televisor o videograbadora es de tipo monoaural

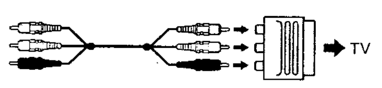
Conecte solamente la clavija blanca para audio a la videocámara y a la videograbadora o el televisor. Con esta conexión el sonido será monoaural.

Conexión a una videograbadora o televisor desprovisto de tomas de entrada de vídeo/audio

Utilice un adaptador de RFU (no suministrado).

Si su televisor/videograbadora posee conector de 21 terminales (EUROCONNCTOR)

Utilice el adaptador de 21 terminales suministrado.



Playing back a tape

You can monitor the playback picture in the viewfinder. You can also monitor a picture on a TV screen, after connecting the camcorder to a TV or VCR.

(1) While pressing the small green button on the POWER switch, set it to PLAYER. The tape transport buttons light up.

(2) Insert the recorded tape with the window facing out.

(3) Press ▷ to start playback.

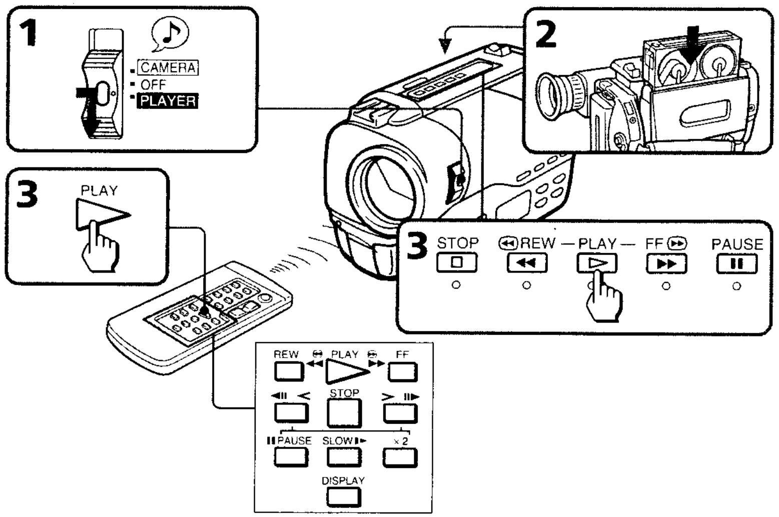
Reproducción de cintas

Usted podrá ver las imágenes reproducidas en el visor y también en la pantalla de televisor si conecta la videocámara a un televisor o una videograbadora.

(1) Manteniendo presionado el pequeño botón verde en el selector POWER, póngalo en PLAYER. Las teclas de transporte de la cinta se encenderán.

(2) Inserte una cinta grabada con la ventanilla hacia afuera.

(3) Presione ▷ para iniciar la reproducción.



To stop playback, press □.
To rewind the tape, press ◀◀.
To fast-forward the tape rapidly, press ▶▶.

Using the remote commander

You can control playback using the supplied Remote Commander. Before using the Remote Commander, insert the R6 (size AA) batteries.

Para cesar la reproducción, presione □.
Para rebobinar la cinta, presione ◀◀.
Para hacer que la cinta avance rápidamente, presione ▶▶.

Utilización del telemando

Usted podrá controlar la reproducción empleando el telemando suministrado. Antes de utilizarlo, inserte las pilas R6 (tamaño AA).

Playing back a tape

To monitor the sound while viewing the playback picture in the viewfinder

Connect headphones (not supplied) to the 🎧 jack (p.97).

Note on the lens cover

The lens cover does not open when the POWER switch is set to PLAYER. Do not open the lens cover manually. It may cause malfunction.

Various playback modes

To view a still picture (playback pause)

Press II during playback. To resume playback, press II or ▷.

To locate a scene (picture search)

Keep pressing ◀◀ or ▶▶ during playback. To resume normal playback, release the button.

To monitor the high-speed picture while advancing the tape or rewinding (skip scan)

Keep pressing ◀◀ while rewinding or ▶▶ while advancing the tape. To resume normal playback, press ▷.

To view the picture at 1/5 speed (slow playback)

Press SLOW I▶ on the Remote Commander during playback. To resume normal playback, press ▷. If slow playback lasts for about 1 minute, it shifts to normal speed automatically.

To view the picture at double speed —CCD-TR760E/TR810E only

For double speed playback in the reverse direction, press ◀II<, then press x2 on the Remote Commander during playback. For double speed playback in the forward direction, press >II▶, then press x2 during playback. To resume normal playback, press ▷.

Reproducción de cintas

Para escuchar el sonido durante la contemplación de las imágenes reproducidas en el visor

Conecte unos auriculares (no suministrados) a la toma 🎧 (pág.97).

Nota sobre la cubierta del objetivo

La cubierta del objetivo no se abrirá cuando el selector POWER esté en PLAYER. No la abra manualmente, ya que podría causar un mal funcionamiento.

Diversos modos de reproducción

Para ver una imagen fija (reproducción en pausa)

Presione II durante la reproducción. Para reanudar la reproducción, presione II o ▷.

Para localizar una escena (búsqueda de imagen)

Mantenga presionada ◀◀ o ▶▶ durante la reproducción. Para reanudar la reproducción normal, suelte la tecla.

Para ver las imágenes a gran velocidad durante el avance rápido o el rebobinado (skip scan)

Mantenga presionada ◀◀ durante el rebobinado o ▶▶ durante el avance de la cinta. Para reanudar la reproducción normal, presione ▷.

Para ver la imagen a velocidad 1/5 de la normal (reproducción a cámara lenta)

Presione SLOW I▶ del telemando durante la reproducción. Para reanudar la reproducción normal, presione ▷. Si la reproducción a cámara lenta dura más de aproximadamente 1 minuto, ésta cambiará automáticamente a la reproducción normal.

Para ver la imagen al doble de la velocidad normal —CCD-TR760E/TR810E solamente

Para reproducir a velocidad doble en sentido regresivo, presione ◀II<, y después pulse x2 del telemando durante la reproducción. Para reproducir a velocidad doble en sentido progresivo, presione >II▶, y después pulse x2 durante la reproducción. Para reanudar la reproducción normal, presione ▷.

To view the picture frame-by-frame —CCD-TR760E/TR810E only

Press ◀II< or >II▶ on the Remote Commander in playback pause mode. If you keep pressing the button, you can view the picture at 1/25 speed. To resume normal playback, press ▷.

To change the playback direction —CCD-TR760E/TR810E only

Press ◀II< on the Remote Commander for reverse direction or >II▶ on the Remote Commander for forward direction during playback. To resume normal playback, press ▷.

To display the viewfinder screen indicators on the TV

Press DISPLAY on the Remote Commander. To erase the indicators, press DISPLAY again.

To select the playback sound

Change the "HiFi SOUND" mode setting in the menu system.

Notes on playback

- Streaks appear and the sound is muted in the various playback modes.
- When playback pause mode lasts for 5 minutes, the camcorder automatically enters stop mode.
- Horizontal noise appears at the center of the screen when you play back a tape in reverse if the RC time code (CCD-TR760E/TR810E only) or the Data Code (CCD-TR760E/TR810E only) is displayed on the screen. This is normal.
- You can play back the tapes recorded in the Hi8 video system though the function is very basic (CCD-TR610E only). You cannot get such finely detailed pictures as you could get with the video camera recorder with a Hi8 video system. Noise may result when you play back the tapes recorded in the Hi8 video system on the CCD-TR610E camcorder.

Displaying the date or time when you recorded — data code function

—CCD-TR760E/TR810E only

Even if you did not record the date or time when you were recording, you can display the date or time when you recorded (Data Code) on the TV during playback or editing. The Data Code is also displayed in the viewfinder and the display window.

Para ver la imagen fotograma por fotograma —CCD-TR760E/TR810E solamente

Presione ◀II< o >II▶ del telemando en el modo de reproducción en pausa. Si mantiene presionada la tecla, podrá ver la imagen a 1/25 de la velocidad normal. Para reanudar la reproducción a velocidad normal, presione ▷.

Para cambiar el sentido de reproducción —CCD-TR760E/TR810E solamente

Presione ◀II< del telemando para reproducir en sentido regresivo o >II▶ del telemando para reproducir en sentido progresivo durante la reproducción. Para reanudar la reproducción normal, presione ▷.

Para visualizar los indicadores de la pantalla del visor en el televisor

Presione DISPLAY del telemando. Para borrar los indicadores, vuelva a presionar DISPLAY.

Para seleccionar el sonido de reproducción

Cambie el ajuste del modo "HiFi SOUND" en el sistema de menú.

Notas sobre la reproducción

- En los diversos modos de reproducción aparecerán franjas y el sonido se silenciará.
- Cuando el modo de reproducción en pausa dure 5 minutos, la videocámara pasará automáticamente al modo de parada.
- Si reproduce una cinta en sentido regresivo con el código de tiempo RC (CCD-TR760E/TR810E solamente) o el código de datos (CCD-TR760E/TR810E solamente) visualizados en la pantalla, aparecerá ruido horizontal en el centro de la pantalla. Esto es normal.
- Esta videocámara podrá reproducir las cintas grabadas con el sistema de vídeo Hi8 a pesar de poseer funciones muy básicas (CCD-TR610E solamente). Sin embargo, no podrá obtener imágenes tan detalladas como en una videocámara de sistema de vídeo Hi8. Es posible que aparezca ruido cuando reproduzca las cintas grabadas con el sistema de vídeo Hi8 en la videocámara CCD-TR610E.

Visualización de la fecha o la hora de la grabación — Función de código de datos

—CCD-TR760E/TR810E solamente

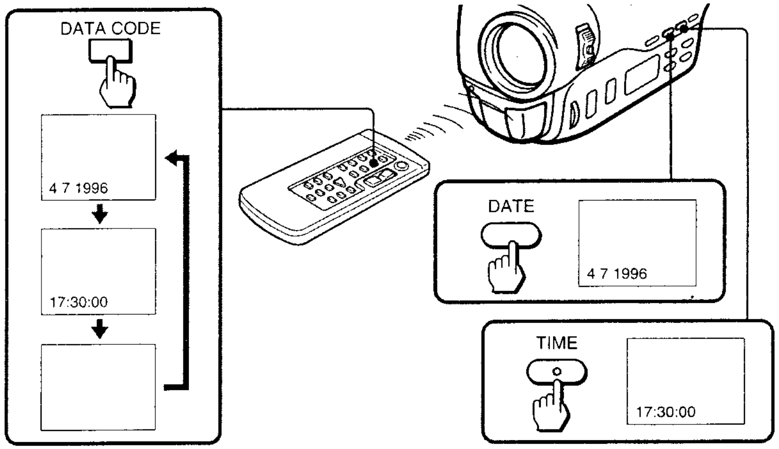
Aunque no haya grabado la fecha o la hora durante la videofilmación, podrá visualizarla después (código de datos) en el televisor durante la reproducción o la edición. El código de datos podrá visualizarse también en el visor y la ventanilla visualizadora.

To display the date when you recorded

Press DATE on the camcorder, or press DATA CODE on the Remote Commander (CCD-TR760E/TR810E only). To make the date disappear, press DATE again or DATA CODE twice.

Para visualizar la fecha de la grabación

Presione DATE de la videocámara o DATA CODE del telemando (CCD-TR760E/TR810E solamente). Para que desaparezca la fecha, presione nuevamente DATE o dos veces DATA CODE.



To display the time when you recorded

Press TIME on the camcorder, or press DATA CODE on the Remote Commander (CCD-TR760E/TR810E only) twice. To make the time disappear, press it again.

When bars (--:--:--) appear

- A blank portion of the tape is being played back.
- The tape was recorded by a camcorder without the Data Code function.
- The tape was recorded by a camcorder without having date and time set.
- The tape is unreadable due to tape damage or noise.
- The tape was recorded in LP mode.
- The tape is being played back in variable speed (Slow Playback, etc.)
- An index signal is marked, the RC time code is written, or PCM after recording is made on the tape.

Para visualizar la hora de la grabación

Presione TIME de la videocámara, o presione dos veces DATA CODE del telemando (CCD-TR760E/TR810E solamente). Para hacer que desaparezca la hora, vuelva a presionarla.

Las barras (--:--:--) aparecerán cuando

- reproduzca una parte en blanco de la cinta.
- la cinta se haya grabado con una videocámara que no posea función de código de datos.
- la cinta se haya grabado sin haber ajustado la fecha ni la hora en la videocámara.
- sea difícil de leer la cinta debido al daño o ruido en la misma.
- la cinta se haya grabado en el modo LP.
- la cinta esté reproduciendo a una velocidad variable (reproducción a cámara lenta, etc.).
- esté marcada una señal de índice, esté escrito el código de tiempo RC o se realice PCM después de que se haya grabado la cinta.

Advanced operations

Using alternative power sources

You can choose any of the following power sources for your camcorder: battery pack and the mains. You can choose 12/24 V car battery for CCD-TR760E/TR810E only. Choose the appropriate power source depending on where you want to use your camcorder.

Place	Power source	Accessory to be used
Indoors	Mains	Supplied AC power adaptor
Outdoors	Battery pack	InfoLITHIUM battery NP-F530 (supplied), NP-F730
In the car*	12 V or 24 V car battery	Car battery charger DC-V515

* CCD-TR760E/TR810E only.

Note on power sources

Disconnecting the power source or removing the battery pack during recording or playback may damage the inserted tape. If this happens, restore the power supply again immediately.

Using the mains

To use the supplied AC power adaptor:

CCD-TR760E/TR810E only:

(1) Connect the AC mains lead to the mains, then connect the connecting cord to the DC OUT jack on the AC power adaptor.

(2) Slide the connecting plate down into the guides at the bottom of the camcorder until it clicks.

Operaciones avanzadas

Utilización con fuentes de alimentación alternativas

Con esta videocámara podrá elegir cualquiera de las siguientes fuentes de alimentación: batería y corriente de la red. Para la CCD-TR760E/TR810E solamente, podrá elegir la batería de un automóvil de 12 o 24 V. Elija la fuente de alimentación apropiada de acuerdo con el lugar donde desee utilizar la videocámara.

Lugar	Fuente de alimentación	Accesorio necesario
Interiores	Corriente de la red	Adaptador de alimentación de CA suministrado
Exteriores	Batería	Batería InfoLITHIUM NP-F530 (suministrada), NP-F730
En un automóvil*	Batería de automóvil de 12 o 24 V	Cargador de batería DC-V515

* CCD-TR760E/TR810E solamente

Nota sobre las fuentes de alimentación

Si desconecta la fuente de alimentación o quita la batería durante la videofilmación o la reproducción, es posible que se dañe la cinta insertada. En tal caso, vuelva a restablecer inmediatamente la alimentación.

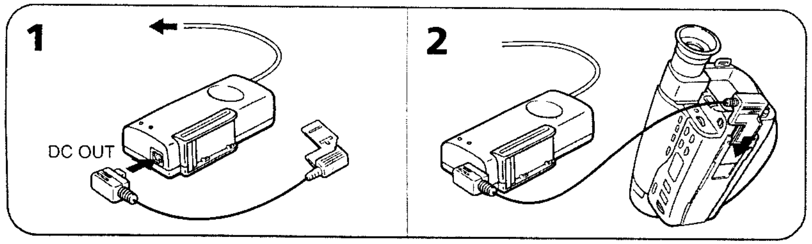
Utilización con la corriente de la red

Para utilizar el adaptador de alimentación de CA suministrado:

CCD-TR760E/TR810E solamente:

(1) Conecte el cable de alimentación de CA a una toma de la red, y después conecte el cable conector a la toma DC OUT del adaptador de alimentación de CA.

(2) Deslizando la placa conectora hacia abajo, insértela en las guías de la base de la videocámara hasta que chasquee.

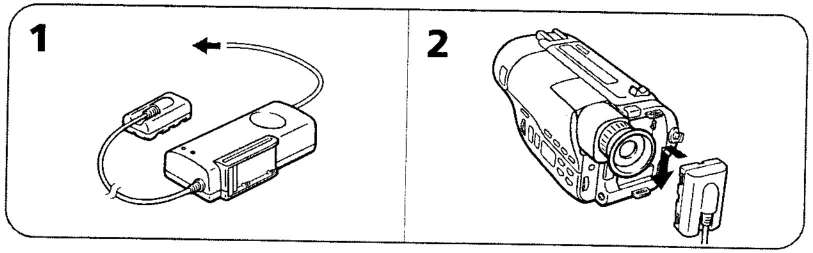


Using alternative power sources

CCD-TR610E only:

(1) Connect the AC mains lead to the mains.

(2) Slide the connecting plate down into the guides at the rear of the camcorder until it clicks.



Charging the battery pack —CCD-TR760E/TR810E only

After connecting the mains lead to the mains and setting the POWER switch on the camcorder to OFF, you can charge the battery pack in either of the following two ways:
(When charging begins, the CHARGE lamp lights.)

- Charging the battery attached to the camcorder
  Leave the battery pack attached to the camcorder. (The NP-F530 battery pack requires about 210 minutes for a full charge and about 150 minutes for a normal charge.)
- Charging two battery packs at the same time
  Attach one battery pack to the AC power adaptor and the other to the camcorder. Both are charged simultaneously. When charged, both lamps go out (normal charge). If either lamp is still lit, both batteries are not charged (the NP-F530 battery packs require about 240 minutes for a full charge and about 180 minutes for a normal charge).

Notes on the VTR/CAMERA lamp

- The VTR/CAMERA lamp will remain lit for a while even if the unit is unplugged after use. This is normal.
- If the VTR/CAMERA lamp does not light, disconnect the mains lead. After about one minute, reconnect the mains lead.

Utilización con fuentes de alimentación alternativas

CCD-TR610E solamente:

(1) Conecte el cable de alimentación a una toma de la red.

(2) Deslizando la placa conectora hacia abajo, insértela en las guías de la parte posterior de la videocámara hasta que chasquee.

Carga de la batería —CCD-TR760E/TR810E solamente

Después de conectar el cable de alimentación a la red y poner el selector POWER de la videocámara en OFF, podrá cargar la batería de una de las siguientes dos formas:
(Cuando comience la carga, la lámpara CHARGE se encenderá.)

- Carga de la batería fijada a la videocámara
  Deje fijada la batería a la videocámara. (La batería NP-F530 tardará unos 210 minutos en cargarse por completo y unos 150 minutos para la carga normal.)
- Carga simultánea de dos baterías
  Fije una batería al adaptador de alimentación de CA y la otra a la videocámara. Ambas baterías se cargarán simultáneamente. Cuando se hayan cargado, ambas lámparas se apagarán (carga normal). Si una de las lámparas permanece encendida, ambas baterías no se habrán cargado (La batería NP-F530 tardará unos 240 minutos en cargarse por completo y unos 180 minutos para la carga normal.)

Notas sobre la lámpara VTR/CAMERA

- Es normal que esta lámpara permanezca encendida durante un momento aunque desenchufe la unidad después de utilizarla.
- Cuando la lámpara VTR/CAMERA no se encienda, desconecte el cable de alimentación. Aproximadamente un minuto después, vuelva a conectar el cable.

To remove the connecting plate
Pull out the connecting plate by the plate. Never pull the connecting cord itself.

WARNING
The mains lead must only be changed at a qualified service shop.

PRECAUTION
The set is not disconnected from the AC power source (mains) as long as it is connected to the mains, even if the set itself has been turned off.

Using the Battery Case

Use the battery case (supplied) and six LR6 (size AA) Sony Alkaline batteries (not supplied).
(1) Remove the battery holder from the battery case.
(2) Insert six new alkaline batteries into the battery holder, following the marking on the holder to be sure the batteries are installed in the correct direction.
(3) Insert the battery holder with the alkaline batteries.
(4) Insert the battery case with the alkaline batteries to the battery mounting surface of the camcorder in the same way as the battery pack (p.11).

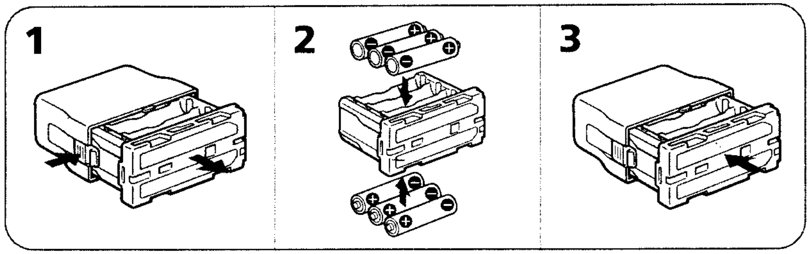
Para quitar la placa conectora
Tire de la propia placa conectora. Nunca tire del cable de la misma.

ADVERTENCIA
El cable de alimentación de la red deberá cambiarse solamente en una estación de servicios cualificada.

PRECAUCIÓN
Este aparato no se desconectará de la fuente de alimentación de CA (red) mientras esté enchufado en una toma de la misma, incluso aunque haya desconectado su alimentación.

Utilización con la caja de pilas

Utilice la caja de pilas (suministrada) y seis pilas alcalinas LR6 (tamaño AA) Sony (no suministradas).
(1) Extraiga el portapilas de la caja de pilas.
(2) Inserte seis pilas alcalinas nuevas en el portapilas, observando la marca del portapilas para colocar correctamente las pilas.
(3) Inserte el portapilas con las pilas alcalinas.
(4) Coloque la caja de pilas con las pilas alcalinas en la superficie de montaje de la batería de la videocámara de la misma manera que la batería (pág.11).



Using alternative power sources

Utilización con fuentes de alimentación alternativas

Battery Life

Using alkaline batteries at 25°C (77°F).

Model	Continuous recording time	Typical recording time
CCD-TR610E	130 min.	80 min.
CCD-TR760E	135 min.	80 min.
CCD-TR810E	130 min.	80 min.

Notes
- The battery life may be shorter depending on the using environment.
- The above battery lives are estimates. The battery life may be shorter depending on the storage condition of the battery before being purchased and temperature.
- You may not use the battery case in cold environment.

To remove the battery case
The battery case is removed in the same way as the battery pack (p.11).
When you replace the batteries, be sure to remove the battery case from the camcorder to prevent malfunction.

Using a car battery

—CCD-TR760E/TR810E only
Use the DC-V515 car battery charger (not supplied). Connect the car battery cord to the cigarette lighter socket of a car (12 V or 24 V). Connect the car battery charger and the camcorder using the supplied connecting cord.

To remove the car battery charger
The car battery charger is removed in the same way as the battery pack.

This mark indicates that this product is a genuine accessory for Sony video products.
When purchasing Sony video products, Sony recommends that you purchase accessories with this "GENUINE VIDEO ACCESSORIES" mark.

Vida útil de las pilas

Utilizando pilas alcalinas a 25°C.

Modelo	Tiempo de videofilmación continua	Tiempo de videofilmación típica
CCD-TR610E	130 min.	80 min.
CCD-TR760E	135 min.	80 min.
CCD-TR810E	130 min.	80 min.

Notas
- La vida útil de las pilas puede acortarse según la forma que se utilicen.
- La duración de las pilas que se indica arriba es estimada. La duración de las pilas puede acortarse según la condición de almacenamiento de las pilas antes de su adquisición y la temperatura.
- Es posible que la caja de pilas no pueda emplearse en climas fríos.

Para quitar la caja de pilas
Quítela de igual forma que la batería (pág.11).
Cuando reemplace las pilas, cerciórese de quitar la caja de pilas de la videocámara para prevenir mal funcionamientos.

Utilización con la batería de un automóvil

—CCD-TR760E/TR810E solamente
Emplee un cargador de batería de automóvil DC-V515 (no suministrado). Conecte el cable de batería de automóvil a la toma del encendedor de cigarrillos de un automóvil (12 o 24 V). Conecte el cargador de batería y la videocámara empleando el cable conector suministrado.

Para quitar el cargador de batería de automóvil
Quítelo igual que la batería.

Esta marca indica que este producto es un accesorio genuino para los productos de vídeo Sony.
A la hora de adquirir los productos de vídeo Sony, recomendamos adquirir los accesorios con esta marca "GENUINE VIDEO ACCESSORIES".

Changing the mode settings

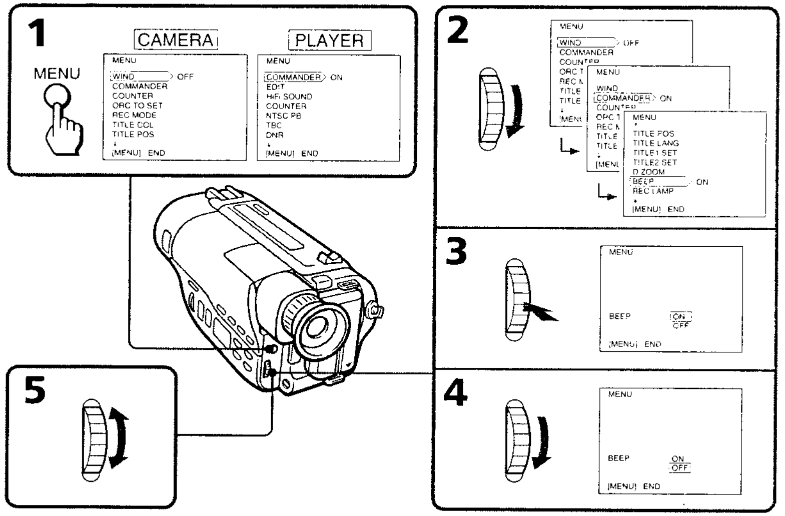
You can change the mode settings in the menu system to further enjoy the features and functions of the camcorder.

(1) Press MENU to display the menu.
(2) Turn the control dial so that the desired item is highlighted white.
(3) Press the control dial. The setting menu appears.
(4) Turn the control dial to highlight a setting, and press the control dial to select it.
(5) If you want to change the other modes, repeat steps 2 to 4.
(6) Press MENU to erase the menu display.

Cambio de los ajustes de modo

Usted podrá cambiar los ajustes de modo en el sistema del menú para disfrutar más de las características y funciones de la videocámara.

(1) Presione MENU para visualizar el menú.
(2) Gire el dial de control para hacer resaltar el ítem deseado en blanco.
(3) Presione el dial de control. Aparecerá el memú de ajuste.
(4) Gire el dial de control para hacer resaltar un ajuste, y presione dicho dial para seleccionarlo.
(5) Si desea cambiar los otros modos, repita los pasos 2 a 4.
(6) Presione MENU para borrar la visualización del menú.



Selecting the mode setting of each item

Items for both CAMERA and PLAYER modes

COUNTER* <NORMAL/TIME CODE> —CCD-TR760E/TR810E only

- Normally select NORMAL.
- Select TIME CODE to display the RC time code in order to edit more precisely. Even if the battery is disconnected from the camcorder, the RC time code is not canceled.

Selección de los ajustes de modo en cada ítem

Ítems comunes en los modos CAMERA y PLAYER

COUNTER* <NORMAL/TIME CODE> —CCD-TR760E/TR810E solamente

- Normalmente seleccione NORMAL.
- Seleccione TIME CODE de forma que se visualice el código de tiempo RC para editar con más precisión. Aunque la batería esté desconectada de la videocámara, el código de tiempo RC no se cancelará.

Changing the mode settings

COMMANDER <ON/OFF>

- Select ON when using the supplied Remote Commander for the camcorder.
- Select OFF when not using the Remote Commander.

BEEP* <ON/OFF>

- Select ON so that beeps sound when you start/stop recording, etc.
- Select OFF when you do not want to hear the beep sound.

Items for CAMERA mode only

WIND <ON/OFF>

- Select ON to reduce wind noise when recording in strong wind.
- Normally select OFF.

ORC TO SET* <ORC ON>

Select this item and press the START/STOP button to automatically adjust the recording condition to get the best possible recording. If you have already perform this function, "ORC ON" is displayed.

REC MODE* <SP/LP>

- Select SP when recording in SP (standard play) mode.
- Select LP when recording in LP (long play) mode.

D ZOOM* <ON/OFF>

- Select ON to activate digital zooming.
- Select OFF not to use the digital zoom. The camera goes back to 15x zoom.

AUTO DATE* <ON/OFF> —CCD-TR610E only

- Select ON to record the date for 10 seconds after recording has started.
- Select OFF not to record the date.

REC LAMP* <ON/OFF>

- Select OFF when you do not want the camera recording/battery lamp at the front of the unit to light up.
- Normally select ON.

TITLE COL* <WHITE/YELLOW/VIOLET/RED/CYAN/GREEN/BLUE>

Select the colour of the title.

Cambio de los ajustes de modo

COMMANDER <ON/OFF>

- Seleccione ON cuando desee emplear el telemando suministrado para controlar la videocámara.
- Seleccione OFF cuando no vaya a emplear el telemando.

BEEP* <ON/OFF>

- Seleccione ON para oír el pitido cuando comience o pare la videofilmación, etc.
- Seleccione OFF si no desea oír el pitido.

Ítems para el modo CAMERA solamente

WIND <ON/OFF>

- Seleccione ON para reducir el ruido del viento durante la videofilmación con viento fuerte.
- Normalmente seleccione OFF.

ORC TO SET* <ORC ON>

Seleccione este ítem y presione la tecla START/STOP de forma que la videocámara ajuste automáticamente la condición de grabación para obtener la mejor grabación posible. Cuando esta función esté activada, se visualizará "ORC ON".

REC MODE* <SP/LP>

- Seleccione SP para grabar en el modo SP (duración estándar).
- Seleccione LP para grabar en el modo LP (duración larga).

D ZOOM* <ON/OFF>

- Seleccione ON para activar el zoom digital.
- En caso contrario, seleccione OFF. La videocámara volverá a ajustar al zoom de 15x.

AUTO DATE* <ON/OFF> —CCD-TR610E solamente

- Seleccione ON para que la fecha se grabe durante 10 segundos desde el inicio de la filmación.
- Seleccione OFF si no desea grabar la fecha.

REC LAMP* <ON/OFF>

- Seleccione OFF cuando no desee que la lámpara de videofilmación/estado de la batería que se encuentra en la parte frontal de la unidad se encienda.
- Normalmente seleccione ON.

TITLE COL* <WHITE/YELLOW/VIOLET/RED/CYAN/GREEN/BLUE>

Seleccione el color del título.

TITLE POS* <CENTER/BOTTOM>
- Select CENTER to centre the title in the picture.
- Select BOTTOM to position the title at the bottom of the picture.

TITLE LANG* <ENGLISH/FRANÇAIS/ESPAÑOL/PORTUGUÊS/DEUTSCH/NEDERLANDS/ITALIANO>
Select the language of the preset titles.

TITLE 1 SET* TITLE 2 SET*
Select to store your own original titles.

CLOCK SET*
Select this item to reset the date or time.

Items for PLAYER mode only

EDIT <ON/OFF>
- Select ON to minimize picture deterioration when editing.
- Normally select OFF.

HiFi SOUND <STEREO/1/2>
- Normally select STEREO.
- Select 1 or 2 to play back a dual sound track tape.

NTSC PB* <ON PAL TV/NTSC 4.43>
- Normally select ON PAL TV.
- Select NTSC 4.43 when playing back a tape recorded in the NTSC colour system. When you play back a tape on a multi-system TV, select an appropriate mode by looking at the screen.

TBC* <ON/OFF> (for CCD-TR760E/TR810E only)
- Select ON to correct for jitter.
- Select OFF not to correct for jitter.
  When you use an old tape on which video games images have been recorded or which has been recorded over many times, set TBC to OFF.

DNR* <ON/OFF> (for CCD-TR760E/TR810E only)
- Select ON to reduce noise.
- Select OFF not to reduce noise.
  If you mind afterimages crated by shooting a rapid moving subject, we recommend selecting the OFF function.

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* These settings are retained even when the battery is removed, as long as the lithium battery is in place.

TITLE POS* <CENTER/BOTTOM>
- Seleccione CENTER para que el título quede en el centro de la imagen.
- Seleccione BOTTOM para situar el título en la parte inferior de la imagen.

TITLE LANG* <ENGLISH/FRANÇAIS/ESPAÑOL/PORTUGUÊS/DEUTSCH/NEDERLANDS/ITALIANO>
Seleccione el idioma de los títulos memorizados.

TITLE 1 SET* TITLE 2 SET*
Seleccione para almacenar sus títulos originales.

CLOCK SET*
Seleccione este ítem para reajustar la fecha o la hora.

Ítems para el modo PLAYER solamente

EDIT <ON/OFF>
- Seleccione ON para mantener al mínimo la degradación de la imagen durante la edición.
- Normalmente seleccione OFF.

HiFi SOUND <STEREO/1/2>
- Normalmente seleccione STEREO.
- Seleccione 1 o 2 para reproducir una cinta grabada con sonido doble.

NTSC PB* <ON PAL TV/NTSC 4.43>
- Normalmente seleccione ON PAL TV.
- Seleccione NTSC 4.43 para reproducir una cinta grabada con el sistema de color NTSC. Cuando reproduzca una cinta en un televisor de sistema múltiple, seleccione el modo apropiado viendo las imágenes en la pantalla.

TBC* <ON/OFF> (para la CCD-TR760E/TR810E solamente)
- Seleccione ON para corregir la distorsión.
- Seleccione OFF cuando no desee corregirla.
  Cuando utilice una cinta con imágenes de videojuegos o que haya sido grabada varias veces, ponga TBC en OFF.

DNR* <ON/OFF> (para la CCD-TR760E/TR810E solamente)
- Seleccione ON para reducir el ruido.
- En caso contrario, seleccione OFF.
  Si se generan imágenes residuales al videofilmar motivos de movimiento rápido, se recomienda seleccionar OFF.

---

* Estos ajustes se mantendrán aunque quite la batería mientras esté colocada la pila de litio.

Fade-in and fade-out

You can fade in or out to give your recording a professional appearance.
When fading in, the picture gradually fades in from black or mosaic while the sound increases. When fading out, the picture gradually fades to black or mosaic while the sound decreases.

When fading in [a]

(1) While the camcorder is in Standby mode, press FADER. The fade indicator starts flashing.
(2) Press START/STOP to start recording. The fade indicator stops flashing.

When fading out [b]

(1) During recording, press FADER. The fade indicator starts flashing.
(2) Press START/STOP to stop recording. The fade indicator stops flashing, and then recording stops.

Aumento gradual y desvanecimiento

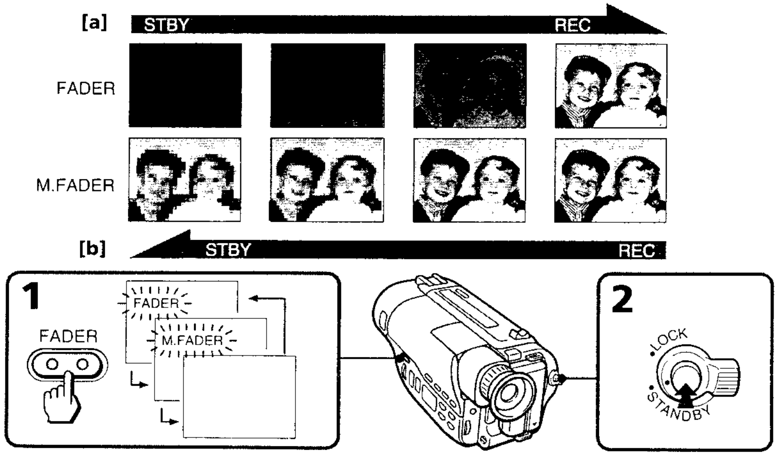
Usted podrá realizar el aumento gradual o el desvanecimiento para dar a su videofilmación un aspecto profesional.
Cuando realice el aumento gradual, la imagen aparecerá gradualmente desde un fondo negro o mosaico mientras que el sonido también aumenta gradualmente. Cuando realice el desvanecimiento, la imagen desaparecerá gradualmente hasta convertirse en una pantalla negra o mosaico mientras disminuye el sonido.

Aumento gradual [a]

(1) Mientras la videocámara esté en el modo de espera, presione FADER. El indicador de aumento gradual/desvanecimiento comenzará a parpadear.
(2) Presione START/STOP para iniciar la videofilmación. El indicador dejará de parpadear.

Desvanecimiento [b]

(1) Durante la videofilmación, presione FADER. El indicador de aumento gradual/desvanecimiento comenzará a parpadear.
(2) Presione START/STOP para parar la videofilmación. El indicador dejará de parpadear y la grabación cesará.



To cancel the fade-in/fade-out function

Before pressing START/STOP, press FADER until the fade indicator disappears.

When the date or time indicator is displayed

The date or time indicator does not fade in or fade out.

When the title is displayed

You cannot use the FADER function. When FADER is set, you cannot superimpose a title.

When START/STOP MODE switch is set to 5 SEC or ⏏

You cannnot use the FADER function.

Para cancelar la función de aumento gradual/desvanecimiento

Antes de presionar START/STOP, presione FADER hasta que desaparezca el indicador de aumento gradual/desvanecimiento.

Cuando se visualice el indicador de la fecha o la hora

Estos indicadores no aumentarán gradualmente ni se desvanecerán.

Cuando se visualice un título

No podrá utilizar la función FADER. Cuando FADER esté activada, no podrá superponer un título.

Cuando el selector START/STOP MODE esté en 5 SEC o ⏏

No podrá utilizar la función FADER.

Using the wide mode function

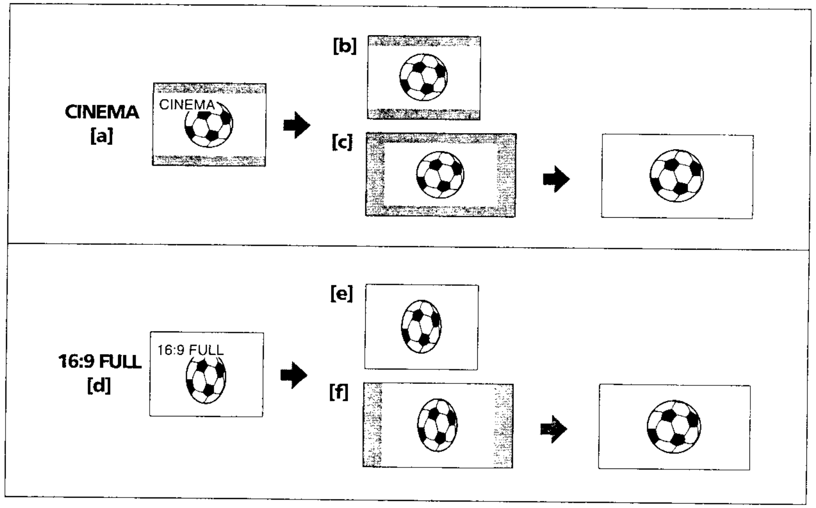
Utilización de la función de imagen panorámica

Selecting the desired mode

You can record a cinemalike picture (CINEMA) or a 16:9 wide picture to watch on the 16:9 wide-screen TV (16:9 FULL).

Selección del modo deseado

Usted podrá grabar una imagen como la del cine (CINEMA) o una imagen alargada para verla en un televisor panorámico 16:9 (16:9 FULL).



CINEMA

Black bands appear at the top and the bottom of the screen, and the viewfinder **[a]** and a normal TV screen **[b]** look wide. You can also watch the picture without black bands on a wide-screen TV **[c]**. When you select the CINEMA mode, DATE, TIME and the battery indicators are displayed above.

16:9 FULL

The picture in the viewfinder **[d]** or on a normal TV **[e]** is horizontally compressed. You can watch the picture of normal images on a wide-screen TV **[f]**.

CINEMA

En las partes inferiores y superiores de la pantalla aparecerán franjas negras y la pantalla del visor **[a]** y la de un televisor normal **[b]** aparecerán como alargadas. La imagen podrá verse también sin las bandas negras en un televisor panorámico **[c]**. Cuando seleccione el modo CINEMA, los indicadores DATE, TIME y de la batería se visualizarán en la parte superior.

16:9 FULL

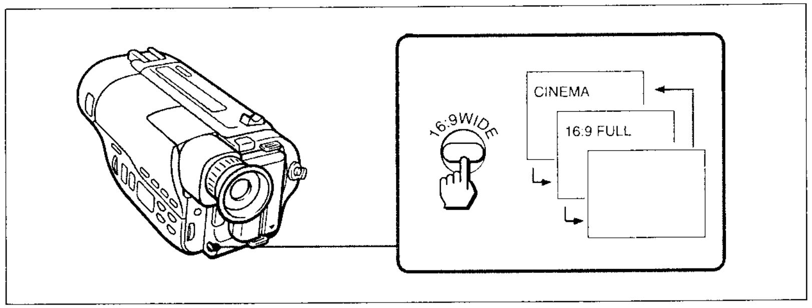
La imagen en el visor **[d]** o en un televisor normal **[e]** se comprime horizontalmente. Las imágenes normales podrán verse en un televisor de pantalla panorámica **[f]**.

Using the wide mode function

While the camcorder is in Standby mode, press 16:9 WIDE repeatedly so that the desired mode indicator appears in viewfinder. While recording, you cannot change the mode.

Utilización de la función de modo panorámico

Mientras la videocámara esté en el modo de espera, presione 16:9 WIDE repetidamente de forma que en el visor aparezca el indicador del modo deseado. Durante la grabación, no podrá cambiar el modo.



To cancel wide mode

Press 16:9 WIDE repeatedly until the wide mode indicator disappears.

To watch the tape recorded in wide mode

To watch the tape recorded in CINEMA mode, set the screen mode of the wide-screen TV to zoom mode. To watch the tape recorded in 16:9 FULL mode, set it to full mode. For details, refer to the instruction manual of your TV.
Note that the picture recorded in 16:9 FULL mode looks compressed on a normal TV.

Notes on wide mode

- If wide mode is set to 16:9 FULL, the Steady Shot function does not work and the "𝔇" indicator flashes.
- When you record in 16:9 FULL mode, the date or time indicator will be widened on the wide-screen TV.
- If you dub a tape, the tape is copied in the same mode as the original recording.
- The wide mode is canceled automatically 5 minutes after you remove the power source.
- When recording, you cannot change the mode. (While the camcorder is in Standby mode, you can change the mode.)

Para cancelar el modo panorámico

Presione repetidamente 16:9 WIDE hasta que desaparezca el indicador del modo panorámico.

Para ver la cinta grabada en el modo panorámico

Para ver una cinta grabada en el modo CINEMA, ajuste el modo de pantalla del televisor panorámico al modo de zoom. Para ver una cinta grabada en el modo 16:9 FULL, ajústelo al modo completo. Con respecto a los detalles, consulte el manual de instrucciones del televisor.
Tenga en cuenta que las imágenes grabadas en el modo 16:9 FULL se verán comprimidas en un televisor normal.

Notas sobre el modo panorámico

- Si el modo panorámico está ajustado a 16:9 FULL, la función de videofilmación estable no trabajará y el indicador 𝔇 parpadeará.
- Cuando grabe en el modo 16:9 FULL, el indicador de la fecha o la hora se ensanchará en un televisor panorámico.
- Si duplica una cinta, ésta se copiará en el mismo modo que la grabación original.
- El modo panorámico se cancelará automáticamente 5 minutos después de desconectar la fuente de alimentación.
- Durante la grabación no podrá cambiar el modo. (Podrá cambiarlo mientras la videocámara esté en el modo de espera.)

Enjoying picture effect

Creación de efecto en la imagen

Selecting picture effect

You can make pictures like those of television with the Picture Effect function.

[a]

[b]

[c]

MOSAIC [a]
The picture is mosaic.

SOLARIZE [b]
The light intensity is more clear, and the picture looks like an illustration.

B&W
The picture is monochrome (black and white).

SEPIA
The picture is sepia.

NEG. ART [c]
The picture is reversed.

PASTEL [d]
Emphasize contrast and gives picture animation-like colours.

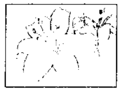
SLIM [e]
The picture expands vertically.

STRETCH [f]
The picture expands horizontally.

Selección del efecto en la imagen

Usted podrá confeccionar imágenes como las de televisor con la función de efecto en la imagen.

[d]



[e]

[f]

MOSAIC [a]
La imagen es de mosaico.

SOLARIZE [b]
La intensidad de la luz es más clara, y la imagen se ve como una ilustración.

B&W
La imagen es monocroma (blanco y negro).

SEPIA
La imagen es sepia.

NEG. ART [c]
La imagen está invertida.

PASTEL [d]
Enfatiza el contraste y las imágenes se ven con los colores como de animación.

SLIM [e]
La imagen se ve alargada verticalmente.

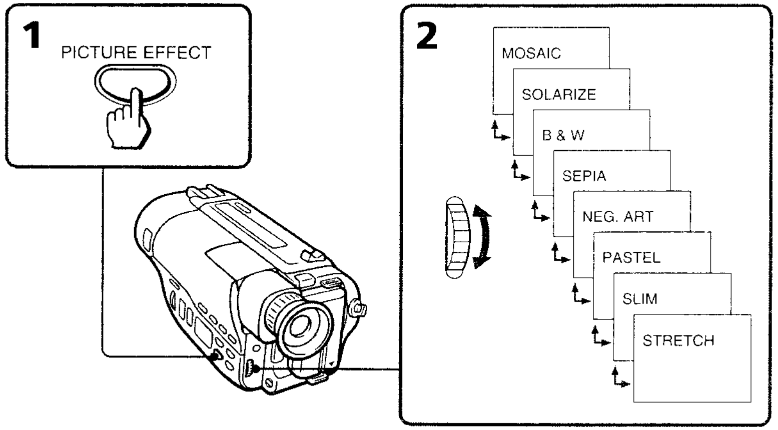
STRETCH [f]
La imagen se ve ampliada horizontalmente.

Using picture effect function

(1) Press PICTURE EFFECT.
(2) Turn the control dial to select the desired picture effect mode.

Empleo de la función de efecto en la imagen

(1) Presione PICTURE EFFECT.
(2) Gire el dial de control para seleccionar el modo de efecto en la imagen que desee.



To turn off picture effect

Press PICTURE EFFECT. The indicator in the viewfinder goes out.

Note on the picture effect

- The picture Efect menu cycle as follows: MOSAIC ←→ SOLARIZE ←→ B&W ←→ SEPIA ←→ NEG. ART ←→ PASTEL ←→ SLIM ←→ STRETCH
- When you turn the power off, the camcorder returns automatically to normal mode.

Para desactivar el efecto en la imagen

Presione PICTURE EFFECT. El indicador desaparecerá del visor.

Notas sobre el efecto en la imagen

- El ciclo del menú de efecto en la imagen es el siguiente: MOSAIC ←→ SOLARIZE ←→ B&W ←→ SEPIA ←→ NEG.ART ←→ PASTEL ←→ SLIM ←→ STRETCH
- Cuando desconecte la alimentación, la videocámara volverá automáticamente al modo normal.

Focusing manually

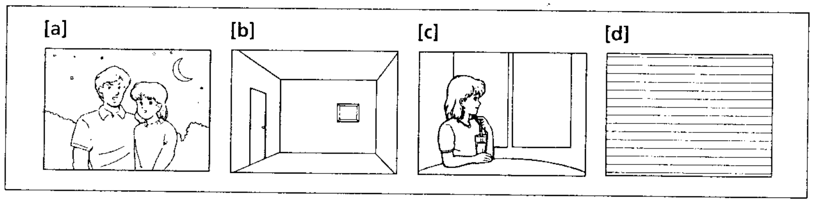
Enfoque manual

When to use manual focus

In the following cases you should obtain better results by adjusting the focus manually.

Cuándo utilizar el enfoque manual

En los casos siguientes se obtendrán mejores resultados ajustando manualmente el enfoque.



- Insufficient light **[a]**
- Subjects with little contrast — walls, sky, etc. **[b]**
- Too much brightness behind the subject **[c]**
- Horizontal stripes **[d]**
- Subjects through frosted glass
- Subjects beyond nets, etc.
- Bright subject or subject reflecting the light
- Shooting a stationary subject when using a tripod

- Luz insuficiente **[a]**
- Motivos con poco contraste — paredes, cielo, etc. **[b]**
- Demasiado brillo detrás del motivo **[c]**
- Rayas horizontales **[d]**
- Motivos situados detrás de un vidrio empañado
- Motivos situados detrás de redes, etc.
- Motivo brillante o que refleja luz
- Cuando videofilme un motivo estacionario utilizando un trípode

Focusing manually

When focusing manually, first focus in telephoto before recording, and then reset the shot length.

(1) Set FOCUS to MANUAL. The indicator appears in the viewfinder.

(2) Move the power zoom lever to the "T" side until the lever reaches the end.

(3) Turn the FAR/NEAR dial to achieve a sharp focus. Be sure not to touch the built-in microphone when you turn the FAR/NEAR dial.

(4) Set the desired shot length using the power zoom lever.

Enfoque manual

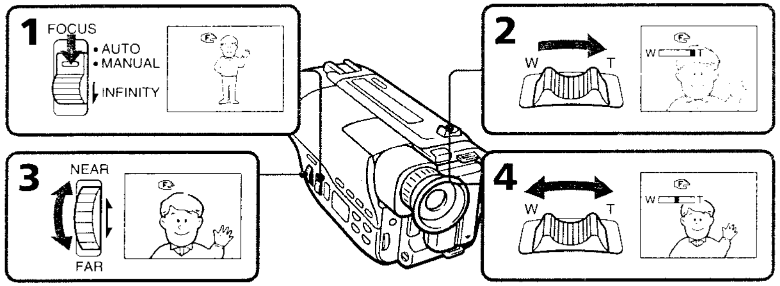
Cuando ajuste manualmente el enfoque, ajuste primero a la posición de telefoto antes de filmar y después ajuste la distancia de videofilmación.

(1) Ponga FOCUS en MANUAL. En el visor aparecerá el indicador.

(2) Mueva la palanca del zoom motorizado hacia el lado "T" (telefoto) hasta que la palanca llegue al extremo.

(3) Gire el dial FAR/NEAR hasta enfocar nítidamente. Tenga cuidado de no tocar el micrófono incorporado cuando gire el dial FAR/NEAR.

(4) Ajuste la distancia de videofilmación deseada utilizando la palanca del zoom motorizado.



To return to autofocus mode

Set FOCUS to AUTO. The indicator in the viewfinder disappears.

Shooting in relatively dark places

Shoot at wide-angle after focusing in the telephoto position.

To record a very distant subject

Push FOCUS down to INFINITY. The lens focuses on the most distant subject while FOCUS is held down. When it is released, manual focus mode is resumed. Use this function when shooting through a window or a screen, to focus on a most distant subject.

Note on manual focusing

The indicator changes to the followings:

▲: When recording an infinitely distant subject.

●: When there is something too close to focus on.

Para volver al modo de enfoque automático

Ponga FOCUS en AUTO. El indicador desaparecerá del visor.

Videofilmación en lugares relativamente oscuros

Videofilme en gran angular después de haber enfocado en telefoto.

Para grabar un motivo que está muy lejos

Presione FOCUS hacia abajo hasta INFINITY. El objetivo enfocará el motivo más lejano mientras mantenga FOCUS hacia abajo. Cuando lo suelte, la videocámara volverá al modo de enfoque manual. Utilice esta función cuando videofilme a través de una ventana o una pantalla, para enfocar el motivo muy lejano.

Nota sobre el enfoque manual

El indicador cambiará como sigue:

▲: Cuando videofilme un motivo que esté muy lejos.

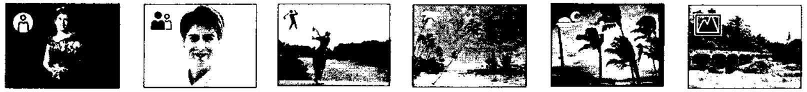
●: Cuando haya algo demasiado cerca para enfocar.

Using the PROGRAM AE function

Empleo de la función PROGRAM AE

Selecting the best mode

You can select one of six PROGRAM AE (Auto Exposure) modes to suit your shooting situation, referring to the following.



Spotlight mode

For subjects in spotlight, such as at the theatre or a formal event.

Soft portrait mode

For zooming in on a still subject in telephoto mode, or for a subject behind an obstacle such as a screen. Creates a soft background for subjects such as people or flowers, and faithfully reproduces skin colour.

Sports lesson mode

For recording fast-moving subjects such as in tennis or golf games.

Beach & ski mode

For people or faces in strong light or reflected light, such as at a beach in midsummer or on a snowy winter mountain.

Sunset & moon mode

For recording subjects in dark environnments such as sunsets, fireworks, neon signs, or general night views.

Landscape mode

For distant subjects (more than 10 meters away) such as mountains or when recording a subject behind an obstacle such as a window or screen.

While selecting spotlight mode, sports lesson mode or beach & ski mode

The camcorder automatically controls the auto focus function not to focus on close subject.

While selecting sunset mode or landscape mode

The camcorder automatically controls the auto focus function to focus on a distant view.

Selección del modo apropiado

Usted podrá seleccionar entre seis modos de PROGRAM AE (exposición automática programada) de acuerdo con la condición de videofilmación, consultando los siguientes ejemplos.

Modo de luz concentrada

Para los motivos iluminados con una luz concentrada, como en un teatro o un acontecimiento formal.

Modo de retrato suave

Para acercar un motivo fijo en el modo de telefoto o para un motivo que esté detrás de un obstáculo como una pantalla. Dará un fondo suave a los motivos como personas o flores, y el color de la piel se reproducirá fielmente.

Modo de lección de deportes

Para videofilmar motivos de gran movimiento como en un juego de tenis o golf.

Modo de playa y esquí

Para las personas o rostros bajo una luz fuerte o reflejada, como en una playa en pleno verano o en una montaña nevada invernal.

Modo de puesta del sol y la luna

Para videofilmar motivos en un lugar oscuro como la puesta del sol, fuegos artificiales, letreros de neón o vistas nocturnas.

Modo de paisaje

Para motivos lejanos (a más de 10 metros) como montañas o cuando videofilme un motivo detrás de un obstáculo como una ventana o una pantalla.

En los modos de luz concentrada, lección de deportes, o playa y esquí

La videocámara controlará automáticamente la función de enfoque automático de forma que no enfoque un objeto cercano.

En los modos de puesta del sol o de paisaje

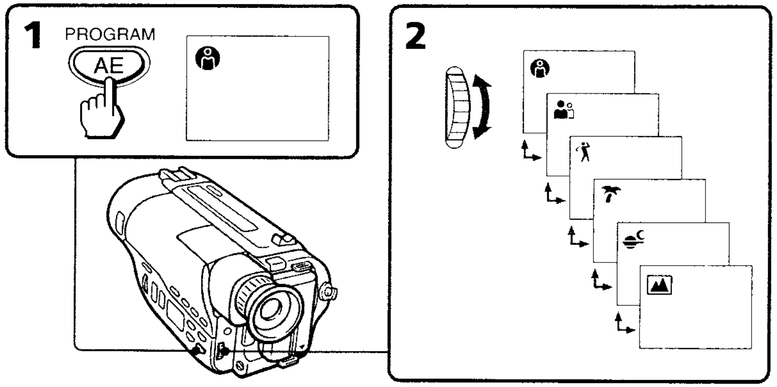
La videocámara controlará automáticamente la función de enfoque automático de forma que enfoque una vista lejana.

Using the PROGRAM AE function

(1) Press PROGRAM AE.
(2) Turn the control dial to select the desired PROGRAM AE mode.

Empleo de la función PROGRAM AE

(1) Presione PROGRAM AE.
(2) Gire el dial de control para seleccionar el modo PROGRAM AE deseado.



To turn off program AE

Press PROGRAM AE.

Note on shutter speed

The shutter speed in each PROGRAM AE mode is as follows:
Soft portrait mode — from 1/50 to 1/425
Sports lesson mode — from 1/215 to 1/4000
Beach & ski mode — from 1/50 to 1/215

When program AE is functioning

You can adjust the exposure.

Para desactivar la función PROGRAM AE

Presione PROGRAM AE.

Nota sobre la velocidad de obturación

La velocidad de obturación en cada modo PROGRAME AE es el siguiente:
Modo de retrato suave — entre 1/50 y 1/425
Modo de lección de deportes — entre 1/215 y 1/4000
Modo de playa y esquí — entre 1/50 y 1/215

Cuando la función PROGRAM AE esté activada

Podrá ajustar la exposición.

Shooting with backlighting

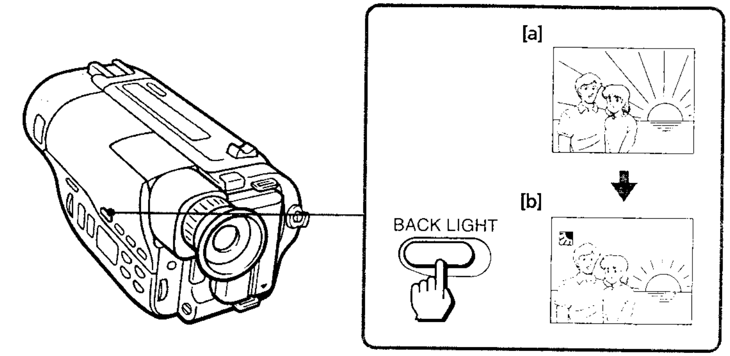
When you shoot a subject with the light source behind the subject or a subject with a light background, use the BACK LIGHT function.

Press BACK LIGHT. The ▨ indicator appears in the viewfinder.

Videofilmación con iluminación de fondo

Cuando filme un motivo con la fuente de luz detrás de él o un motivo con un fondo iluminado, emplee la función BACK LIGHT.

Presione BACK LIGHT. El indicador ▨ aparecerá en el visor.



[a] Subject is too dark because of backlight.
[b] Subject becomes bright with backlight compensation.

After shooting

Be sure to release this adjustment condition by pressing BACK LIGHT again. The ▨ indicator disappears. Otherwise, the picture will be too bright under normal lighting conditions.

This function is also effective under the following conditions:

- On snow, e.g. at a ski resort
- At the beach under strong sunshine
- A subject with a light source nearby or a mirror reflecting light
- A white subject against a white background. Especially when you shoot a person wearing shiny clothes made of silk or synthetic fiber, his or her face tends to become dark if you do not use this function.

When you press teh EXPOSURE button

The BACK LIGHT function is canceled.

[a] El motivo está demasiado oscuro debido a la iluminación de fondo.
[b] El motivo adquiere brillo con la compensación de iluminación de fondo.

Después de filmar

No se olvide de cancelar esta condición de ajuste presionando otra vez BACK LIGHT. El indicador ▨ desaparecerá. De otra forma, la imagen tendrá un brillo excesivo bajo condiciones de iluminación normal.

Esta función también será eficaz bajo las condiciones siguientes:

- En la nieve, por ejemplo, en una estación invernal.
- En la playa bajo un sol intenso.
- Cuando un motivo tenga una fuente de luz próxima o un espejo que refleje luz.
- Cuando un motivo blanco tenga un fondo blanco. Especialmente cuando filme a una persona con ropas brillantes de seda o fibra sintética, su rostro tenderá a oscurecerse si no emplea esta función.

Cuando presione la tecla EXPOSURE

La función BACK LIGHT se cancelará.

Adjusting the exposure

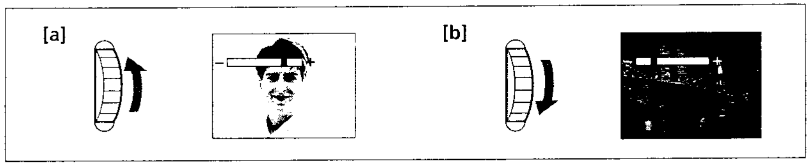
Ajuste de la exposición

When to adjust the exposure

When you shoot in a snowfield or on a beach in the mid-summer and the subject may become dark because of the extreme brightness, you can change the brightness of the picture. You can also use this function when the subject is too bright-subjects on stages, night views, etc.

Cuándo ajustar la exposición

Cuando filme en un campo nevado o una playa en pleno verano y el motivo se grabe demasiado oscuro debido a la excesiva claridad, podrá cambiar el brillo de la imagen. Esta función también podrá emplearse para un motivo demasiado brillante en un escenario, vistas nocturnas, etc.



[a] Turn the control dial up when:
- The background is too bright (back lighting)
- Insufficient light: most of the picture is dark

[b] Turn the control dial down when:
- Bright subject and dark background
- To record the darkness faithfully

[a] Gire el dial de control hacia arriba cuando:
- El fondo es demasiado brillante (contraluz)
- Iluminación insuficiente: la mayor parte de la imagen es oscura.

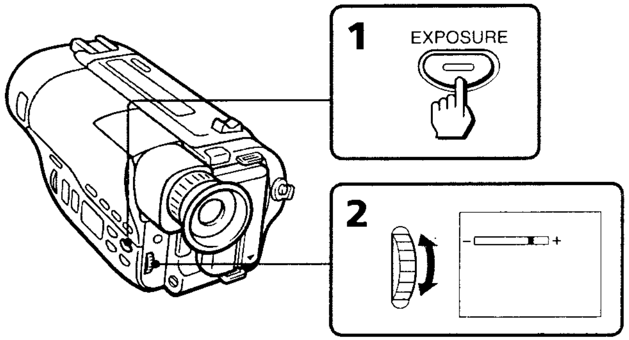
[b] Gire el dial de control hacia abajo cuando:
- El motivo es brillante y el fondo oscuro
- Desea videofilmar bien en la oscuridad

Adjusting the exposure

(1) Press EXPOSURE.
(2) Turn the control dial to adjust the brightness.

Ajuste de la exposición

(1) Presione EXPOSURE.
(2) Gire el dial de control para ajustar el brillo.



To return to automatic exposure mode

Press EXPOSURE again.

Para volver al modo de exposición automática

Presione nuevamente EXPOSURE.

Shooting with the sun behind you

If the light source is behind your subject, or in the following situations, the subject will be recorded too dark.
- The subject is indoors and there is a window behind the subject.
- Bright light sources are included in the scene.
- When shooting a person wearing white or shiny clothes in front of a white background, the face will be recorded too dark.

Shooting in the dark

We recommend you to use a video light (not supplied). To get the best colour, you must maintain a sufficient light level.

When you adjust the exposure manually

- BACK LIGHT does not appear.
- Manual adjustment of exposure returns to automatic exposure mode when you press the PROGRAM AE button.

Videofilme con el sol a su espalda

Si videofilma una escena con la fuente de iluminación detrás del motivo o con las siguientes condiciones, éste se grabará demasiado oscuro.
- El motivo está en interiores y existe una ventana detrás de él.
- La escena incluye fuentes de luz brillantes.
- Cuando videofilma una persona vestida de blanco o brillante frente a un fondo blanco. En este caso, el rostro se grabará demasiado oscuro.

Videofilmación en un lugar oscuro

Se recomienda utilizar una lámpara para vídeo (no suministrada). Para conseguir el mejor color, deberá mantener el nivel de iluminación suficiente.

Cuando ajuste manualmente la exposición

- no aparecerá BACK LIGHT.
- el ajuste manual de la exposición se volverá al ajuste automático si presiona la tecla PROGRAM AE.

Releasing the STEADY SHOT function (CCD-TR610E/TR810E only)

When you shoot, the ᗢ indicator appears in the viewfinder. This indicates that the Steady Shot function is working and the camcorder compensates for camera-shake.

You can release the Steady Shot function when you do not need to use the Steady Shot function. Do not use the Steady Shot function when shooting a stationary object with a tripod.

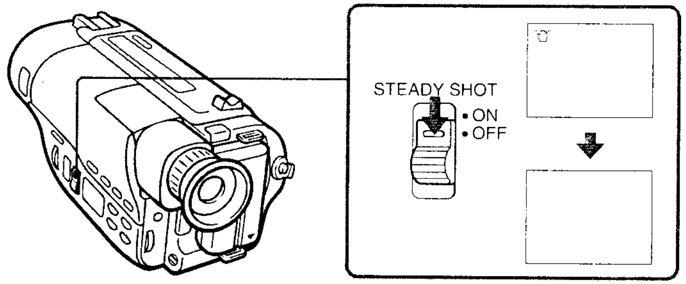
Set STEADY SHOT to OFF. The ᗢ indicator goes off.

Desactivación de la función STEADY SHOT (CCD-TR610E/TR810E solamente)

Cuando videofilme, en el visor aparecerá el indicador ᗢ. Este indicador señalará que la función de videofilmación estable está activada y la videocámara está compensando sus propias vibraciones.

Podrá desactivar la función de videofilmación estable cuando no la necesite. No emplee esta función cuando filme un objeto estacionario con un trípode.

Ponga STEADY SHOT en OFF. El indicador ᗢ desaparecerá.


STEADY SHOT
• ON
• OFF
ᗢ

To activate the Steady Shot function again

Set STEADY SHOT to ON. The ᗢ indicator appears in the viewfinder.

Notes on the Steady Shot function

- The Steady Shot function will not correct excessive camera-shake.
- When you switch the Steady Shot function on or off, the exposure may fluctuate.
- Steady Shot does not operate when you select the 16:9 FULL mode.

Para volver a activar la función de videofilmación estable

Ponga STEADY SHOT en ON. En el visor aparecerá el indicador "ᗢ".

Notas sobre la función de videofilmación estable

- La función de videofilmación estable no podrá corregir sacudidas excesivas.
- Cuando active o desactive la función de videofilmación estable, es posible que la exposición varíe.
- Cuando seleccione el modo 16:9 FULL, la función de videofilmación estable no funcionará:

Superimposing a title

You can select one of eight preset titles. You can also select the language, position, and colour of titles in the menu system.

Selecting the language

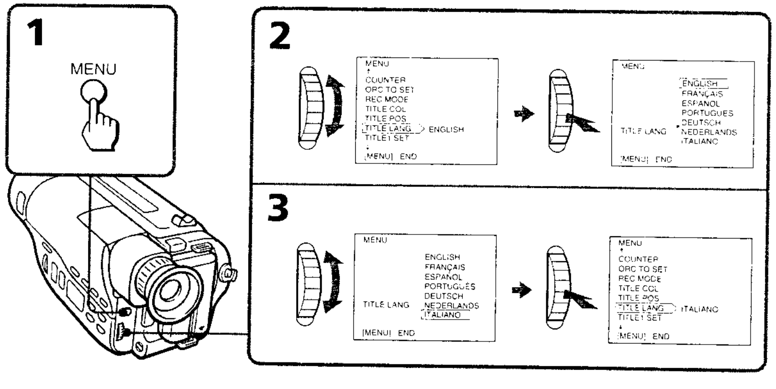
(1) While the camcorder is in Standby mode, press MENU to display the menu.
(2) Turn the control dial to select TITLE LANG, then press the control dial. The language menu appears.
(3) Turn the control dial to select the desired language, then press the control dial.
(4) Press MENU to erase the menu display.

Superposición de un título

Usted podrá elegir un título entre los ochos títulos memorizados. También podrá seleccionar el idioma, la posición y el color del título en el sistema del menú.

Selección del idioma

(1) Mientras la videocámara esté en el modo de espera, presione MENU para visualizar el menú.
(2) Gire el dial de control para seleccionar TITLE LANG y presione el dial de control. Aparecerá el menú de idionas.
(3) Gire el dial de control para seleccionar el idioma deseado, y presione el dial de control.
(4) Presione MENU para borrar la visualización del menú.


1
MENU
2
MENU
COUNTER
ORC TO SET
REC MODE
TITLE COL
TITLE POS
TITLE LANG
ENGLISH
TITLE SET
[MENU] END
MENU
ENGLISH
FRANÇAIS
ESPANOL
PORTUGUES
DEUTSCH
NEDERLANDS
ITALIANO
TITLE LANG
[MENU] END
3
MENU
ENGLISH
FRANÇAIS
ESPANOL
PORTUGUÊS
DEUTSCH
NEDERLANDS
ITALIANO
TITLE LANG
[MENU] END
MENU
COUNTER
ORC TO SET
REC MODE
TITLE COL
TITLE POS
TITLE LANG
ITALIANO
TITLE SET
[MENU] END

Using titles

To add the title from the beginning

(1) While the camcorder is in Standby mode, press TITLE repeatedly until the desired title appears.
Each time a new title appears, it flashes. When the desired title appears, wait for it to stop flashing.
Titles cycle as follows:
Original title 1 → Original title 2 → HELLO! → HAPPY BIRTHDAY → HAPPY HOLIDAYS → CONGRATULATIONS! → OUR SWEET BABY → WEDDING → VACATION → THE END
After "THE END" the title indicator goes off once and returns to Original title 1 again.

(2) Press START/STOP to start recording.

(3) When you want to stop recording the title, press TITLE.

If you have not stored any original titles

The titles begin from "HELLO!".

Note on titles

The contents and the order of titles are different depending on the languages.

To add the title while you are recording

(1) While the camcorder is in Standby mode, press TITLE repeatedly until the desired title appears. Each time a new title appears, it flashes.

(2) When the desired title appears, wait for it to stop flashing, and press TITLE again to erase the title from the display.

(3) Press START/STOP to start recording.

(4) When you reach the point where you want to add the title, press TITLE.

(5) When you want to stop recording the title, press TITLE again.

Utilización del título

Para superponer el título desde el comienzo

(1) Mientras la videocámara esté en el modo de espera, presione repetidamente TITLE hasta que aparezca el título deseado.
Cada vez que aparezca un nuevo título, éste parpadeará. Cuando aparezca el título deseado, espere que deje de parpadear.
Los títulos aparecerán como sigue:
Título original 1 → Título original 2 → ¡HOLA! → ¡FELIZ CUMPLEAÑOS! → FELIZ NAVIDAD → ¡FELICIDADES! → NUESTRO BEBE → LA BODA → VACACIONES → FIN
Después de que el indicador del título "FIN" desaparezca, volverá a aparecer el título original 1.

(2) Presione START/STOP para iniciar la grabación.

(3) Cuando desee parar la grabación del título, presione TITLE.

Cuando no se haya almacenado ningún título original

El título comenzará a aparecer desde "¡HOLA!".

Nota sobre los títulos

El contenido y el orden de los títulos difieren en función de los idiomas.

Para superponer el título durante la grabación

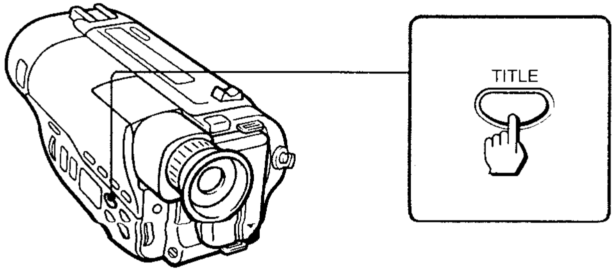
(1) Mientras la videocámara esté en el modo de espera, presione repetidamente TITLE hasta que aparezca el título deseado. Cada vez que aparezca un nuevo título, éste parpadeará.

(2) Cuando aparezca el título deseado, espere hasta que deje de parpadear, y vuelva a presionar TITLE para borrar el título de la pantalla.

(3) Presione START/STOP para comenzar la grabación.

(4) Cuando llegue al punto donde desee superponer el título, presione TITLE.

(5) Cuando desee detener la grabación del título, vuelva a presionar TITLE.



Superimposing a title

Notes on superimposing a title

- You cannot select a title while you are recording.
- FADER does not work while the title is displayed.
- A title, a date and time cannot be recorded at the same time.
- When fading in or out you cannot display a title.
- If you display the menu while superimposing a title, the title is not recorded while the menu is being displayed.

To select the colour of the title

(1) While the camcorder is in Standby mode, press MENU to display the menu.

(2) Turn the control dial to select TITLE COL and press the control dial to select it.
The colour menu appears.

(3) Turn the control dial to highlight a colour, and press the control dial to select it.
You can choose from the following 7 colors:
WHITE ←→ YELLLOW ←→ VIOLET ←→ RED ←→ CYAN ←→ GREEN ←→ BLUE

(4) Press MENU to erase the menu display.

Superposición de un título

Notas sobre la superposición de un título

- Usted no podrá seleccionar el título durante la grabación.
- FADER no se activará mientras esté visualizándose un título.
- El título, la fecha y la hora no podrán grabarse al mismo tiempo.
- Durante el aumento gradual o el desvanecimiento, no podrá visualizar el título.
- Si visualiza el menú durante la superposición de un título, el mismo no se grabará mientras aparezca el menú.

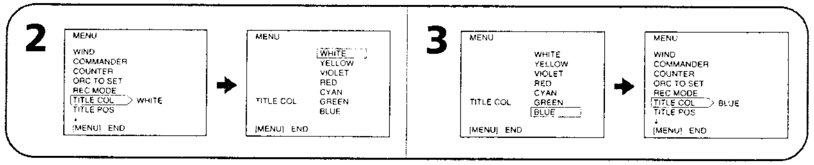
Para seleccionar el color del título

(1) Mientras la videocámara esté en el modo de espera, presione MENU para visualizar el menú.

(2) Gire el dial de control para seleccionar TITLE COL y presione dicho dial para elegirlo.
Aparecerá el menú de color.

(3) Gire el dial de control para resaltar un color, y presione el dial para seleccionarlo.
Usted podrá elegir uno de los siguientes 7 colores:
WHITE (blanco) ←→ YELLOW (amarillo) ←→ VIOLET (violeta) ←→ RED (rojo) ←→ CYAN (azul-verde) ←→ GREEN (verde) ←→ BLUE (azul)

(4) Presione MENU para borrar la visualización del menú.



To select the position of the title

(1) While the camcorder is in Standby mode, press MENU to display the menu in the viewfinder.

(2) Turn the control dial to select TITLE POS and press the control dial to select it.
The position menu appears.

(3) Turn the control dial to highlight CENTER or BOTTOM, and press the control dial to select it.

(4) Press MENU to erase the menu display.

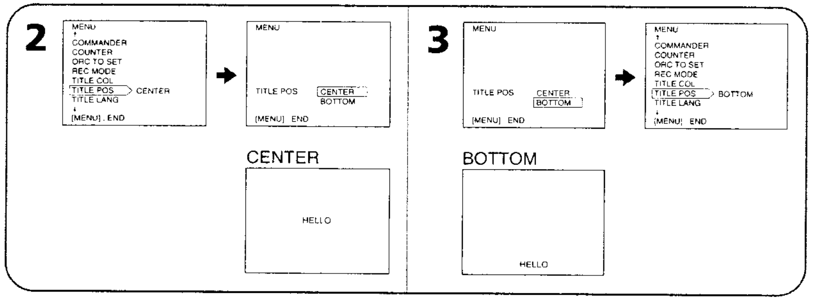
Para seleccionar la posición del título

(1) Mientras la videocámara esté en el modo de espera, presione MENU para visualizar el menú en el visor.

(2) Gire el dial de control para seleccionar TITLE POS y presione el dial para elegirlo.
Aparecerá el menú de posición.

(3) Gire el dial de control para resaltar CENTER o BOTTOM, y presione el dial para seleccionarlo.

(4) Presione MENU para borrar la visualización del menú.


2
MENU
COMMANDER
COUNTER
ORC TO SET
REC MODE
TITLE COL
TITLE POS
CENTER
TITLE LANG
[MENU] : END
MENU
TITLE POS
CENTER
BOTTOM
[MENU] : END
CENTER
HELLO
3
MENU
TITLE POS
CENTER
BOTTOM
[MENU] : END
MENU
COMMANDER
COUNTER
ORC TO SET
REC MODE
TITLE COL
TITLE POS
BOTTOM
TITLE LANG
[MENU] : END
BOTTOM
HELLO

Making your own original titles

You can make up to two titles and store them in the camcorder. Eject the cassette before you begin. Your title can have up to 22 letters.

(1) While the camcorder is in Standby mode, press MENU to display the menu.

(2) Turn the control dial to select TITLE 1 SET or TITLE 2 SET and press the control dial to select it. The letter entry menu appears.

(3) Turn the control dial to highlight a letter, and press the control dial to select it.

(4) Repeat step 3 until you finish the title.

(5) When you are finished, turn the control dial to highlight ↵ and press control dial to select it.
The title is stored.

(6) Press MENU to erase the menu display.

Confección de sus títulos originales

Usted podrá confeccionar dos títulos y almacenarlos en la videocámara. Extraiga el cassette antes de comenzar. El título podrá ser de hasta 22 letras.

(1) Mientras la videocámara esté en el modo de espera, presione MENU para visualizar el menú.

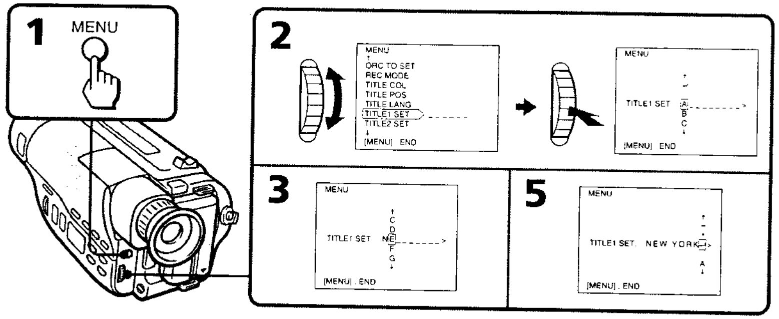
(2) Gire el dial de control para seleccionar TITLE 1 SET o TITLE 2 SET, y presione el dial para seleccionarlo. Aparecerá el menú de introducción de letras.

(3) Gire el dial de control para resaltar una letra, y presione el dial para elegirla.

(4) Repita el paso 3 hasta que termine de elegir todas las letras del título.

(5) Cuando termine, gire el dial para resaltar ↵ y presione el dial para seleccionarlo.
El título se almacenará.

(6) Presione MENU para borrar la visualización del menú.


1
MENU
2
MENU
ORC TO SET
REC MODE
TITLE COL
TITLE POS
TITLE LANG
TITLE1 SET
TITLE2 SET
[MENU] : END
MENU
TITLE1 SET
A
B
C
[MENU] : END
3
MENU
C
D
NE
F
G
TITLE1 SET
[MENU] : END
5
MENU
TITLE1 SET
NEW YORK
A
[MENU] : END

To edit a title you have stored

In step 2, select TITLE 1 SET or TITLE 2 SET, whichever title you want to edit is stored in. Then change the title.

Instead of selecting ↵ in step 5 to store the title

You can do one of the following:
- Enter 22 characters.
- Press MENU.

If you do nothing more than 5 minutes while a cassette is in the camcorder

The power goes off automatically. Turn STANDBY down once, turn it again up and proceed from step 1.

Para cambiar un título almacenado

En el paso 2, seleccione TITLE 1 SET o TITLE 2 SET en la que esté almacenado el título que desee cambiar, y después cámbielo.

En lugar de seleccionar ↵ en el paso 5 para almacenar el título

Podrá realizar uno de los dos procedimientos siguientes:
- Introducir 22 letras.
- Presionar MENU.

Si pasan 5 minutos sin hacer ningún procedimiento mientras la videocámara tenga un cassette insertado

La alimentación se desconectará automáticamente. Gire una vez STANDBY hacia abajo y vuelva a girarlo hacia arriba, y comience desde el paso 1.

When you enter 22 letters in step 4
The title is stored automatically. (You do not need to got to step 5.)

To delete a title
At the leftmost character position, select ↵ and press the control dial. Do not erase the title by selecting empty spaces. If you do so, a title full of empty spaces is stored.

Cuando introduzca 22 letras en el paso 4
El título se almacenará automáticamente. (No es necesario pasar al paso 5.)

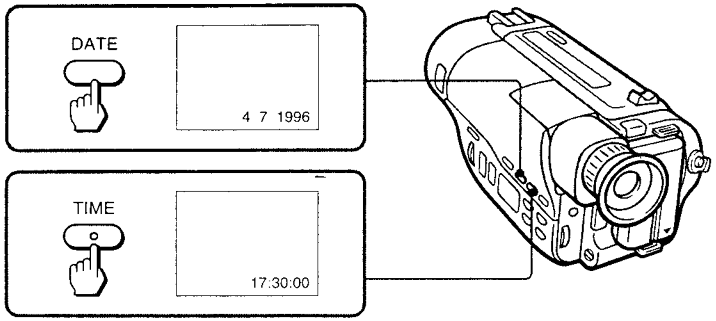
Para borrar un título
En la posición de la letra del extremo izquierdo, seleccione ↵ y presione el dial de control. No borre el título seleccionando el espacio. Si lo hace, se almacenará un título compuesto de espacios.

Recording with the date or time

Before you start recording or during recording, press DATE or TIME. You can record the date or time displayed in the viewfinder with the picture. You cannot record the date and time at the same time. Except for the date or time indicator, no indicator in the viewfinder is recorded.
The clock is already set at the factory, to London time for United Kingdom and to Paris time for the other European countries. You can reset the clock in the menu system.

Grabación con la fecha o la hora

Antes de comenzar la grabación o durante la grabación, presione DATE o TIME. Con la imagen podrá grabar la fecha o la hora visualizada en el visor. La fecha y la hora no podrán grabarse al mismo tiempo. Exceptuando el indicador de la fecha o la hora, ningún otro indicador del visor se grabará.
El reloj ya ha sido ajustado en fábrica a la hora de Londres para el Reino Unido y a la de París para los demás países europeos. El reloj podrá reajustarse en el sistema del menú.



To stop recording with the date or time
Press DATE or TIME again. The date or time indicator disappears. The recording continues.

Para parar la grabación con la fecha o la hora
Presione otra vez DATE o TIME. El indicador de la fecha o la hora desaparecerá. La grabación continuará.

Re-recording a picture in the middle of a recorded tape (CCD-TR760E/TR810E only)

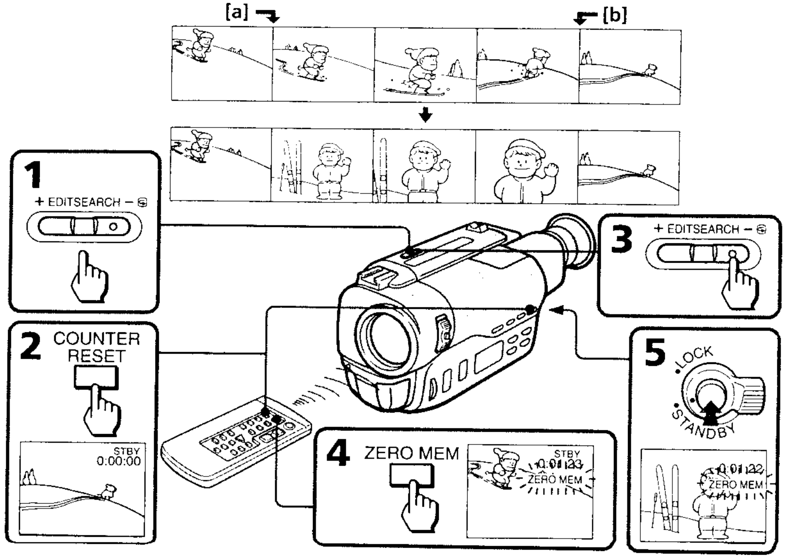
You can insert a scene in the middle of a recorded tape by setting the starting and ending points. The previous recorded portion will be erased. If the RC time code appears in the viewfinder, set COUNTER to NORMAL in the menu system to display the tape counter.

(1) While the camcorder is in Standby mode, keep pressing the + (forward playback) or − (reverse playback) side of EDITSEARCH, and release the button where you want to end the insertion **[b]**. The camcorder enters Standby mode again.
(2) Press COUNTER RESET. The counter resets to zero.
(3) Keep pressing the − side of EDITSEARCH and release the button at the point where you want to start the insertion **[a]**.
(4) Press ZERO MEM on the Remote Commander. The ZERO MEM indicator flashes.
(5) Press START/STOP to start recording. The recording stops automatically at the counter zero point.

Regrabación de una imagen en medio de una cinta grabada (CCD-TR760E/TR810E solamente)

Usted podrá insertar una escena en medio de una cinta grabada ajustando el punto de comienzo y el de finalización. La grabación previamente realizada se borrará. Cuando el código de tiempo RC aparezca en el visor, ponga COUNTER en NORMAL en el sistema del menú para visualizar el contador de la cinta.

(1) Mientras la videocámara esté en el modo de espera, mantenga presionado el lado + (reproducción en sentido progresivo) o − (reproducción en sentido regresivo) de EDITSEARCH, y suéltelo cuando desee finalizar la inserción **[b]**. La videocámara volverá a pasar al modo de espera.
(2) Presione COUNTER RESET. El contador se ajustará a cero.
(3) Mantenga presionado el lado − de EDITSEARCH y suéltelo en el punto en el que desee iniciar la inserción **[a]**.
(4) Presione ZERO MEM del telemando. Parpadeará el indicador ZERO MEM.
(5) Presione START/STOP para comenzar la grabación. La grabación se parará automáticamente en el punto cero del contador.



To change the end point

Press ZERO MEM to erase the ZERO MEM indicator, then repeat steps 2 to 5.

Note on re-recording

The picture and the sound may be distorted at the end of the inserted portion when it is played back.

Para cambiar el punto de finalización

Presione ZERO MEM para borrar el indicador ZERO MEM, y después repita los pasos 2 a 5.

Nota sobre la regrabación

Es posible que las imágenes y el sonido se distorsionen en el punto de finalización de la inserción cuando los reproduzca.

Selecting the START/STOP mode

Your camcorder has two modes besides normal start/stop mode. These modes enable you to take a series of quick shots resulting in a lively video.

(1) Set the START/STOP MODE switch to the desired mode.
  - ⧗ : Recording starts when you press START/STOP, and stops when you press it again (normal mode).
  - ⊥ : The camcorder records only while you press down START/STOP.
  - 5 SEC: When you press START/STOP, the camcorder records for 5 seconds and then stops automatically.

(2) Turn STANDBY up and press START/STOP. Recording starts.

If you selected 5 SEC, five dots appear in the viewfinder. The dots disappear at a rate of one per second. When five seconds elapse and all the dots disappear, the camcorder switches to Standby mode automatically.

If you select ⊥, the camcorder records as long as you hold down START/STOP.

Selección del modo START/STOP

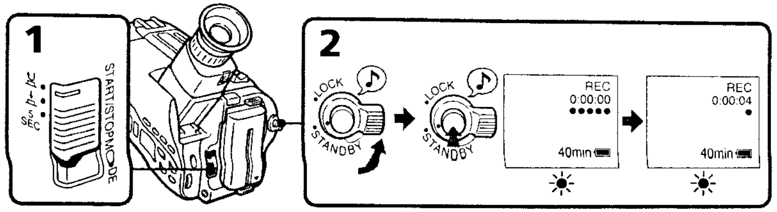
Esta videocámara dispone de dos modos además del modo normal de inicio/parada. Con estos modos podrá obtener una serie de tomas rápidas que resultará en un vídeo vívido.

(1) Ponga el selector START/STOP MODE en el modo deseado.
  - ⧗ : La grabación se iniciará cuando presione START/STOP, y se parará cuando vuelva a presionarlo (modo normal).
  - ⊥ : La videocámara grabará sólo mientras mantenga presionado START/STOP.
  - 5 SEC: Cuando presione START/STOP, la videocámara grabará durante 5 segundos y se parará automáticamente.

(2) Gire STANDBY hacia arriba y presione START/STOP. Se iniciará la grabación.

Si selecciona 5 SEC, en el visor aparecerán 5 puntos. Los puntos desaparecerán de a uno por segundo. Cuando pasen 5 segundos y todos los puntos hayan desaparecido, la videocámara entrará automáticamente en el modo de espera.

Si selecciona ⊥; la videocámara grabará mientras presione START/STOP.



Selecting the START/STOP mode

To extend the recording time in 5 SEC mode

Press START/STOP again before all the dots disappear. Recording continues for about 5 seconds from the moment you pressed START/STOP.

To return to normal recording

Set the START/STOP MODE switch to ⧗. If you set the switch while recording, recording continues.

Note on 5-SEC and ⊥ mode

You cannot use FADER if you select 5 SEC or ⊥.

Selección del modo START/STOP

Para prolongar el tiempo de grabación en el modo 5 SEC

Vuelva a presionar START/STOP antes de que desaparezcan todos los puntos. La grabación continuará durante unos 5 segundos desde el momento que presione START/STOP.

Para volver a la grabación normal

Ponga el selector START/STOP MODE en ⧗. Si lo pone en esta posición durante la grabación, la misma continuará.

Nota sobre los modos de 5-SEC y ⊥

Cuando seleccione 5 SEC o ⊥, no podrá utilizar FADER.

Checking the tape condition before recording (ORC)

Use this feature to check the tape condition before recording, so that you can get the best possible picture.

(1) While the camcorder is in Standby mode, press MENU to display the menu.

(2) Turn the control dial to highlight ORC TO SET and press the control dial to select it. "START/STOP KEY" starts flashing.

(3) Press START/STOP. The ORC indicator starts flashing. The camcorder takes about 5 seconds to check the condition of the tape head and the cassette. The ORC indicator disappears.

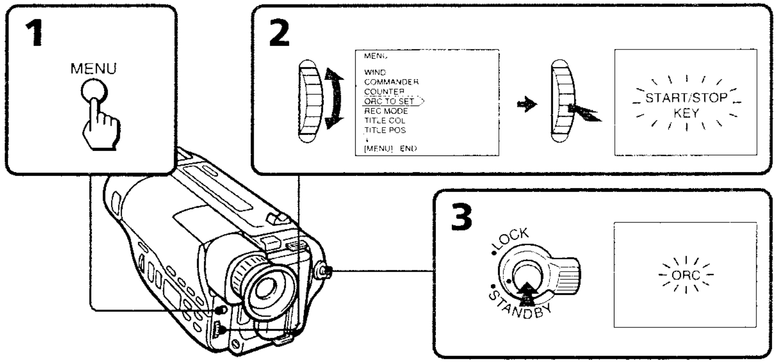
Comprobación de la condición de la cinta antes de la grabación (ORC)

Emplee esta función para ver la condición de la cinta antes de la grabación, de forma que pueda obtener las mejores imágenes posibles.

(1) Mientras la videocámara esté en el modo de espera, presione MENU para visualizar el menú.

(2) Gire el dial de control para resaltar ORC TO SET y presione el dial para seleccionarlo. "START/STOP KEY" comenzará a parpadear.

(3) Presione START/STOP. El indicador ORC comenzará a parpadear. La videocámara tardará unos 5 minutos en comprobar la condición de la cabeza de la cinta y el cassette. El indicador ORC desaparecerá.



If the cassette has been ejected
Every time you eject the cassette, ORC is canceled. Set ORC again.

To check if you have performed ORC
Perform step 1 and step 2 above. If "ORC ON" is displayed, the tape condition has been checked.

When the tab on the cassette exposes the red mark
You can not use ORC.

If you set ORC on the tape already recorded
A 0.1 second unrecorded part is automatically created on the tape. However, if you continue recording over the part, the unrecorded part on the tape is canceled.

Si el cassette se ha expulsado
Cada vez que lo expulse, ORC se cancelará. Vuelva a activar ORC.

Para ver si se ha activado ORC
Realice los pasos 1 y 2 anteriores. Si se visualiza "ORC ON", la condición de la cinta se habrá comprobado.

Cuando la lengüeta del cassette esté con la marca roja al descubierto
No podrá emplear ORC.

Si ajusta la condición de la cinta (ORC) en una cinta previamente grabada
En la cinta se creará automáticamente una parte sin grabación de 0,1 segundo. Sin embargo, si continua la grabación sobre esta parte, la misma se cancelará.

Searching the boundaries of recorded date (CCD-TR760E/TR810E only)

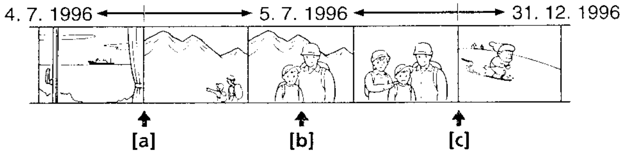
You can search for the boundary between recording dates using the Date Code automatically recorded on the tape.
There are two modes:

- Searching for the beginning of a specific date, and playing back from there (**Date Search**)
- Searching for the beginning of all days, one after another, playing back about 10 seconds of each (**Date Scan**)

Búsqueda de los límites de las fechas grabadas (CCD-TR760E/TR810E solamente)

Usted podrá buscar el límite de las fechas de grabación utilizando el código de la fecha grabado automáticamente en la cinta.
Existen los dos modos siguientes:

- Búsqueda del comienzo de una fecha específica y reproducción desde tal punto (**Búsqueda de fechas**)
- Búsqueda del comienzo de todas las fechas uno detrás de otro reproduciendo unos 10 segundos de cada uno (**Exploración de fechas**)



Each time you press DATE SEARCH, the mode changes as follows:

Date Search → Date Scan → nothing

Cada vez que presione DATE SEARCH, el modo cambiará de la forma siguiente:

Búsqueda de fechas → Exploración de fechas → Ninguno

To search for the beginning of a specific date

(1) Set the POWER switch to PLAYER. The tape transport buttons light up.

(2) Press DATE SEARCH on the Remote Commander.

(3) When the current position is **[b]**, press ◀◀ to search towards **[a]** or press ▶▶ to search towards **[c]**.

Para buscar el comienzo de una fecha específica

(1) Ponga el selector POWER en PLAYER. Las teclas de transporte de la cinta se encenderán.

(2) Presione DATE SEARCH del telemando.

(3) Cuando el punto actual es **[b]**, presione ◀◀ para buscar hacia **[a]** o ▶▶ para buscar hacia **[c]**.

To scan the beginning of all days

(1) Set the POWER switch to PLAYER.

(2) Press DATE SEARCH on the Remote Commander twice.

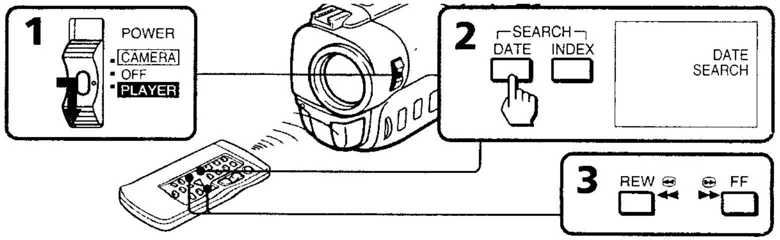
(3) Press ◀◀ or ▶▶. Date Scan starts.

Para explorar el comienzo de todas las fechas

(1) Ponga el selector POWER en PLAYER.

(2) Presione dos veces DATE SEARCH del telemando.

(3) Presione ◀◀ o ▶▶. Se iniciará la exploración de fechas.



To stop searching or scanning
Press one of the following tape transport buttons: ▷, □, ◀◀ or ▶▶.

To view pictures during searching or scanning
Press ▷ and then press ◀◀ or ▶▶.

Notes on Date Search and Date Scan mode
- If a day's recording is not longer than 2 minutes, the camcorder may not accurately find its boundaries.
- Date Search and Date Scan do not function on a tape recorded by a camcorder without the Data Code function. Your camcorder has the Data Code function.

Para parar la búsqueda o la exploración
Presione una de las siguientes teclas de transporte de la cinta: ▷, □, ◀◀ o ▶▶.

Para ver las imágenes durante la búsqueda o la exploración
Presione ▷ y después presione ◀◀ o ▶▶.

Notas sobre los modos de búsqueda y exploración de fechas
- Si la grabación de un día no dura más de 2 minutos, es posible que la videocámara no detecte los límites con precisión.
- La búsqueda y la exploración de fechas no funcionarán con una cinta grabada en otra videocámara carente de la función de código de datos. Esta videocámara dispone de la función de código de datos.

Returning to a pre-registered position (CCD-TR760E/TR810E only)

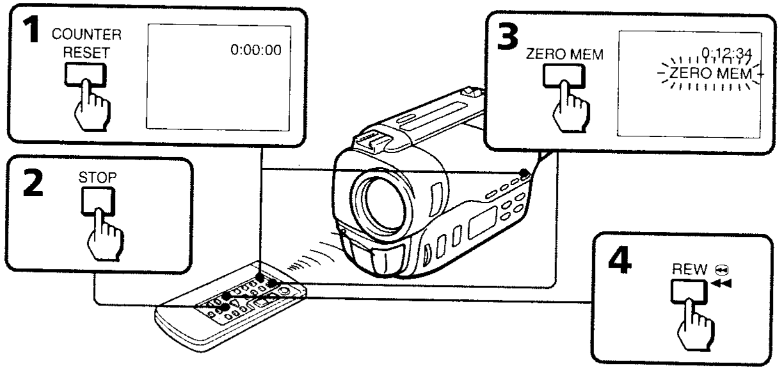
Using the Remote Commander, you can easily go back to the desired point on a tape after playback. Use the tape counter. If the RC time code appears in the viewfinder, set COUNTER to NORMAL in the menu system to display the tape counter.

(1) During playback, press COUNTER RESET at the point you later want to locate. The counter shows "0:00:00" in the viewfinder.
(2) Press □ when you want to stop playback.
(3) Press ZERO MEM on the Remote Commander. The ZERO MEM indicator flashes in the viewfinder.
(4) Press ◀◀ to rewind or press ▶▶ to fast-forward the tape to the counter's zero point. The tape stops automatically when the counter reaches approximately zero.

Vuelta al punto previamente registrado (CCD-TR760E/TR810E solamente)

Utilizando el telemando, podrá volver fácilmente al punto deseado después de la reproducción. Emplee el contador de la cinta. Cuando aparezca el código de tiempo RC en el visor, ponga COUNTER en NORMAL en el sistema del menú para visualizar el contador de la cinta.

(1) Durante la reproducción, presione COUNTER RESET en el punto que desee localizar más tarde. El contador mostrará "0:00:00" en el visor.
(2) Presione □ cuando desee parar la reproducción.
(3) Presione ZERO MEM del telemando. En el visor parpadeará el indicador ZERO MEM.
(4) Presione ◀◀ para rebobinar o ▶▶ para avanzar la cinta hasta el punto cero del contador. La cinta se parará automáticamente cuando el contador llegue aproximadamente a cero.



Notes on the tape counter
- Something must be recorded on the tape in order for the tape counter to function. Tape counter does not work on a blank tape.
- There may be a discrepancy of several seconds from the actual time.

Notas sobre el contador de la cinta
- Para que el contador funcione, deberá tener algo grabado en la cinta. El contador no trabajará en una cinta en blanco.
- Es posible que exista una diferencia de varios segundos entre el contador y el tiempo real.

Notes on ZERO MEM
- When you press ZERO MEM, the counter's zero point is memorized. Press ZERO MEM again before rewinding to cancel the memory.
- This function is canceled automatically once the tape is rewound or advanced to the point you pre-registered.
- ZERO MEM does not function during recording or playing back.

Notas sobre ZERO MEM
- Cuando presione ZERO MEM, se memorizará el punto cero del contador. Para cancelar la memorización, vuelva a presionar ZERO MEM antes del rebobinado.
- Esta función se cancelará automáticamente cuando la cinta se rebobine o avance hasta el punto previamente registrado.
- ZERO MEM no funcionará durante la grabación ni la reproducción.

Locating the marking position (CCD-TR760E/TR810E only)

You can locate the beginning of a desired programme easily by marking an index signal during recording or playback and searching for it later.

Marking an index signal

You can mark an index signal during recording or playback.

When marking at the beginning of recording or playback

Press INDEX MARK on the Remote Commander in recording standby or playback pause mode. The INDEX MARK indicator appears in the viewfinder with the MARK indicator flashing. When recording or playback starts, the MARK indicator stops flashing. This shows that the index signal is being marked. Then the INDEX MARK indicator will disappear.

Localización del punto marcado (CCD-TR760E/TR810E solamente)

Usted podrá localizar fácilmente el comienzo del programa deseado marcando una señal de índice durante la grabación o la reproducción y localizándola más tarde.

Marcación de una señal de índice

Usted podrá marcar una señal de índice durante la grabación o la reproducción.

Marcación en el comienzo de la grabación o la reproducción

Presione INDEX MARK del telemando en el modo de grabación en espera o reproducción en pausa. En el visor aparecerá el indicador INDEX MARK con el indicador MARK parpadeando. Cuando comience la grabación o la reproducción, el indicador MARK dejará de parpadear. Esto indica que la señal de índice se está marcando. Después, el indicador INDEX MARK desaparecerá.

Locating the marking position (CCD-TR760E/TR810E only)

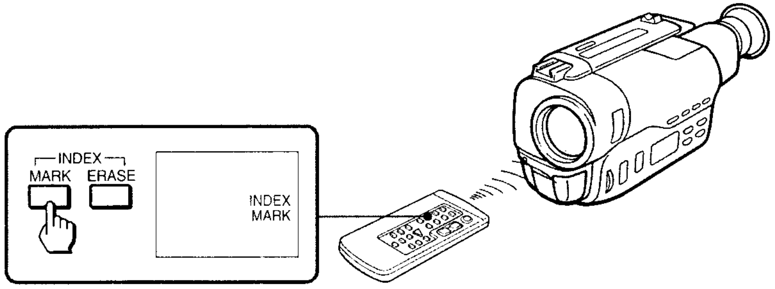
When marking during recording or playback

Press INDEX MARK on the Remote Commander at the point you want to locate later.

Localización del punto marcado (CCD-TR760E/TR810E solamente)

Marcación durante la grabación o la reproducción

Presione INDEX MARK del telemando en el punto que desee localizar más tarde.



Notes on marking
- Make sure you mark index signals at more than two-minute intervals. Otherwise, you may not be able to search for them correctly.
- If you stop recording or playback while the index signal is being marked (the INDEX MARK indicator lights in the viewfinder), the search may not be completed correctly.
- If you mark an index signal on the tape with the Data Code or RC time code recorded, the Data Code will be erased at the point on which the index signal is marked. When playing back this tape, the camcorder keeps displaying the Data Code immediately before the erased one. If the Data Code does not exist for more than 30 seconds the Data Code displays bars (--).
- A black band appears when you mark index signal during playback, and the sound cannot be heard. This does not affect the picture and sound that are already recorded.
- You cannot mark an index signal on a tape with the red mark on the cassette exposed.
- You cannot mark an index signal on an NTSC-recorded tape.
- You cannot mark an index signal when you are using 5 SEC, ⫫ or fading out while the POWER switch is set to CAMERA.

Notas sobre la marcación
- Asegúrese de marcar señales de índice con un intervalo de más de dos minutos. De lo contrario, es posible que nó pueda localizarlas correctamente.
- Si para la grabación o la reproducción mientras esté marcándose una señal de índice (el indicador INDEX MARK aparece en el visor), es posible que la búsqueda no se realice correctamente.
- Si marca una señal de índice en una cinta con código de datos o código de tiempo RC grabado, el código se borrará en el punto donde se marque la señal de índice. Cuando reproduzca esta cinta, se visualizará el código de datos inmediatamente anterior al borrado. Si el código de datos no existe durante más de 30 segundos, se visualizarán las barras (--).
- Aparecerá una franja negra cuando marque una señal de índice durante la reproducción, y el sonido no se oirá. Esto no afectará la imagen y el sonido previamente grabados.
- Usted no podrá marcar una señal de índice cuando el cassette tenga la marca roja al descubierto.
- Usted no podrá marcar una señal de índice en una cinta grabada con el sistema NTSC.
- Usted no podrá marcar una señal de índice cuando esté activada 5 SEC, ⫫ o el desvanecimiento con el selector POWER en CAMERA.

Scanning the beginning of each marking position — index scan

Use the Remote Commander. To view the picture on a TV, press DISPLAY.

(1) Press INDEX on the Remote Commander during normal playback or in stop mode:

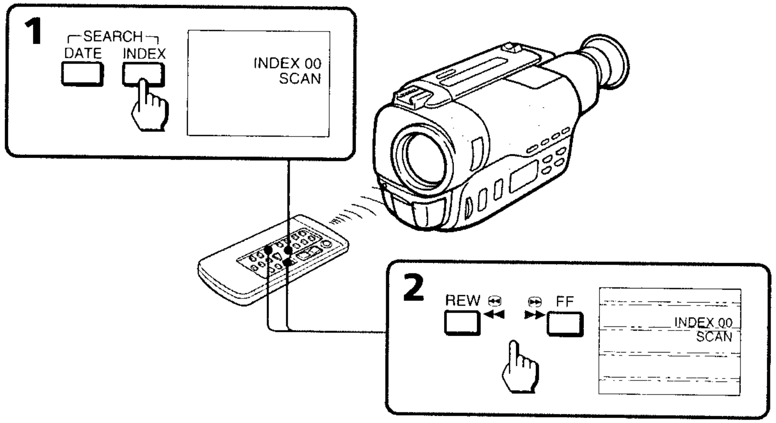
(2) Press ◀◀ or ▶▶. The tape rewinds or advances rapidly and plays back for approximately 10 seconds form the point on which the index signal was marked. If you want to continue playback, press ▷. When you do not press any button, the tape is automatically scanned to the next programme.

Exploración del punto marcado — Exploración con señales de índice

Utilice el telemando. Para ver las imágenes en el televisor, presione DISPLAY.

(1) Presione INDEX del telemando durante la reproducción normal o en el modo de parada.

(2) Presione ◀◀ o ▶▶. La cinta se rebobinará o avanzará rápidamente y se reproducirá durante unos 10 segundos desde el punto donde se haya marcado una señal de índice. Si desea continuar la reproducción, presione ▷. Si no presiona ninguna tecla, la videocámara explorará automáticamente el siguiente programa.



To cancel index scan mode

Press ▷. Normal playback resumes.

Para cancelar el modo de exploración con señales de índice

Presione ▷. Se reanudará la reproducción normal.

Locating the marking position (CCD-TR760E/TR810E only)

Localización del punto marcado (CCD-TR760E/TR810E solamente)

Locating the desired marking position — index search

(1) Press INDEX on the Remote Commander during stop or playback mode.

(2) Press INDEX repeatedly until the index number of the desired programme is displayed in the viewfinder.

(3) Press ◀◀ or ▶▶. Playback starts from the beginning of the desired programme.

[a] the current position
[b] the INDEX number

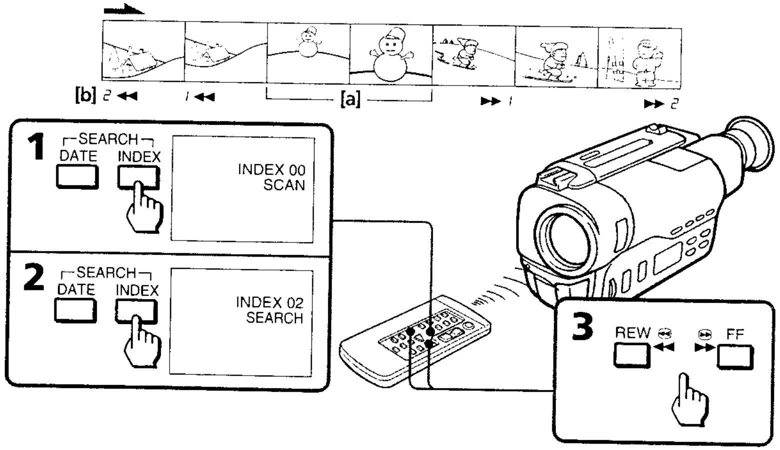
Localización de un punto marcado — Búsqueda con señales de índice

(1) Presione INDEX del telemando durante el modo de parada o reproducción.

(2) Presione repetidamente INDEX hasta que en el visor aparezca el número de índice del programa deseado.

(3) Presione ◀◀ o ▶▶. La reproducción se iniciará desde el comienzo del programa deseado.

[a] posición actual
[b] número de índice



To stop index search mode

Press ▷. Normal playback resumes.

Note on the index number

The index number (1, 2, etc.) indicates the distance from the point you are now viewing **[a]**, regardless of the direction.

Para detener el modo de búsqueda con señales de índice

Presione ▷. Se reanudará la reproducción normal.

Nota sobre el número de índice

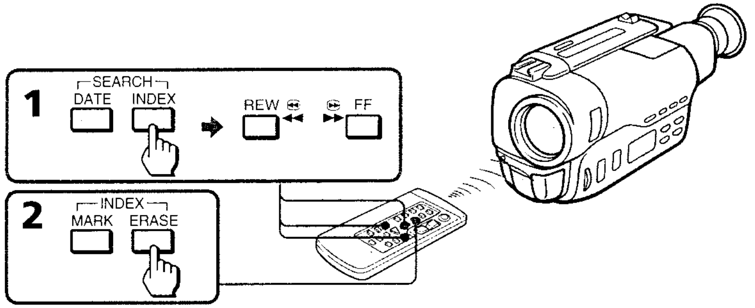
El número de índice (1, 2, etc.) indica la distancia desde el punto que está viéndose **[a]**, independientemente del sentido.

Erasing an index signal

(1) Locate the index signal to be erased using the index scan or index search function.
(2) Press INDEX ERASE on the Remote Commander within 2 to 10 seconds while the desired programme plays back. After the index signal is erased, the camcorder returns to index scan or index search mode, whichever was used in step 1.

Borrado de una señal de índice

(1) Localice la señal de índice que desee borrar con la función de exploración o la búsqueda con señales de índice.
(2) Presione INDEX ERASE del telemando durante 2 a 10 segundos mientras esté reproduciéndose el programa deseado. Después de que la señal de índice se haya borrado, la videocámara volverá al modo de exploración o búsqueda con señales de índice, el que haya activado en el paso 1.



Notes on erasing

- Press INDEX ERASE more than 2 seconds after the playback of the desired programme begins.
- You cannot erase the index signal on a tape with the red mark on the cassette exposed.
- While the index signal is being erased, the sound may not be heard and a black band appears at the bottom of the picture. This will not affect the recorded sound or picture.
- The camcorder can detect index signals marked with VCRs, but may not erase them. VCRs with an index function can detect index signals marked with this camcorder but may not erase them.
- An index signal may be erased when making PCM after recording on another VCR in the portion where the index signal is marked.

Note on Data Code

When an index signal is erased, Data Code on the same portion of the tape is also erased.

Notas sobre el borrado

- Presione INDEX ERASE durante más de 2 segundos después de que haya comenzado la reproducción del programa deseado.
- Usted no podrá borrar señales de índice cuando el cassette tenga la marca roja al descubierto.
- Mientras esté borrándose una señal de índice, el sonido puede no oírse y aparecerá una franja negra en la parte inferior de la imagen. Esto no afectará el sonido o la imagen grabada.
- La videocámara podrá detectar señales de índice marcadas en videograbadoras, pero no podrá borrarlas. Las videograbadoras provistas de función de índice podrán detectar las señales de índice marcadas en esta videocámara, pero no podrán borrarlas.
- Cuando realice PCM con otra videograbadora en una parte previamente grabada con señales de índice, éstas pueden borrarse.

Nota sobre el código de datos

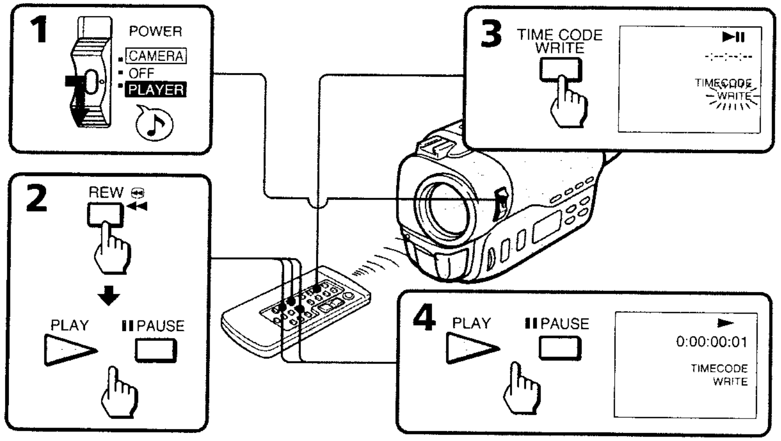
Cuando una señal de índice se borre, el código de datos en el mismo punto también se borrará.

Writing the RC Time code on a recorded tape (CCD-TR760E/TR810E only)

You can write the RC time code on a recorded tape. Use the Remote Commander.
(1) While pressing the small green button on the POWER switch, set it to PLAYER.
(2) Rewind the tape to the beginning and set the camcorder to playback pause mode.
(3) Press TIME CODE WRITE on the Remote Commander. The TIME CODE WRITE indicator appears in the viewfinder with the WRITE indicator flashing.
(4) Press ▷ or ❚❚ to start playback. The WRITE indicator stops flashing and the RC time code writing starts from 0:00:00:00.

Escritura del código de tiempo RC en una cinta grabada (CCD-TR760E/TR810E solamente)

Usted podrá escribir el código de tiempo RC en una cinta grabada. Utilice el telemando.
(1) Manteniendo presionado el pequeño botón verde en el selector POWER, póngalo en PLAYER.
(2) Rebobine la cinta hasta su comienzo y ponga la videocámara en el modo de reproducción en pausa.
(3) Presione TIME CODE WRITE del telemando. En el visor aparecerá el indicador TIME CODE WRITE y parpadeará el indicador WRITE.
(4) Presione ▷ o ❚❚ para iniciar la reproducción. El indicador WRITE dejará de parpadear y el código de tiempo RC se escribirá desde 0:00:00:00.



To stop writing the RC time code

Press □ (or any tape transport button).

Para detener la escritura del código de tiempo RC

Presione □ (o cualquier tecla de transporte de la cinta).

To write the RC time code from the end of the RC time code recorded portion

Rewind the tape to the portion on which the RC time code has been written and set the camcorder to playback pause mode. Then follow steps 3 and 4 above. The RC time code is written continuously.

Notes on writing the RC time code

- The RC time code writing stops when:
  - you press TIME CODE WRITE again before starting playback.
  - you press INDEX or DATE before starting playback.
  - you change from playback mode to another mode.
- When you are writing the RC time code from the middle of a tape without the time code written, writing starts several frames before the current picture.
- If you write the RC time code on a recorded tape, the Data Code is erased.
- You can mark the RC time code on a tape recorded both in LP mode and SP mode, the RC time code written in LP mode, however, may not be read correctly.
- You cannot mark the RC time code on an NTSC-recorded tape.
- You cannot write the RC time code on a tape with the red mark on the cassette exposed.
- A black band appears when you mark the RC time code during playback, and the sound cannot be heard. This does not affect the picture and sound that are already recorded.

Note on --:--:--:-- indicator

The --:--:--:-- indicator appears during playback if:

- nothing is recorded.
- the RC time code is unreadable because of the damage of the tape or because of the noise.
- you recorded using another VCR without RC time code function.

Para escribir el código de tiempo RC a partir del punto final de dicho código grabado

Rebobine la cinta hasta la parte en la que se haya escrito el código de tiempo RC y ponga la videocámara en el modo de reproducción en pausa. Después, realice los pasos 3 y 4 anteriores. El código de tiempo RC se escribirá continuamente.

Notas sobre la escritura del código de tiempo RC

- La escritura del código de tiempo RC se parara cuando:
  - presione nuevamente TIME CODE WRITE antes de iniciar la reproducción.
  - presione INDEX o DATE antes de iniciar la reproducción.
  - cambie del modo de reproducción a otro modo.
- Si escribe el código de tiempo RC desde el medio de una cinta sin dicho código, la escritura se iniciará a partir de algunos fotogramas antes de la imagen actual.
- Si escribe el código de tiempo RC en una cinta grabada, el código de datos se borrará.
- Usted podrá marcar el código de tiempo RC en una cinta grabada tanto en el modo LP como el SP, sin embargo, es posible que el código de tiempo RC escrito en el modo LP no pueda leerse correctamente.
- Usted no podrá escribir el código de tiempo RC en una cinta grabada en el sistema NTSC.
- Usted no podrá escribir el código de tiempo RC cuando el cassette tenga la marca roja al descubierto.
- Cuando marque el código de tiempo RC durante la reproducción, aparecerá una banda negra y el sonido no se oirá. Esto no afectará la imagen y el sonido ya grabado.

Nota sobre el indicador --:--:--:--

El indicador --:--:--:-- aparecerá durante la reproducción si:

- no hay nada grabado.
- el código de tiempo RC no puede leerse debido al daño o ruido en la cinta.
- la cinta se ha grabado en otra videograbadora sin función de código de tiempo RC.

Editing onto another tape

You can create your own video programme by editing with any other 8 8 mm, Hi8 Hi8, VHS VHS, S-VHS S-VHS, VHSC VHSC, S-VHSC S-VHSC or B Betamax VCR that has video/audio inputs.

Before editing

Connect the camcorder to the VCR as described in "Connections for playback" on page 21.
Set the input selector on the VCR to LINE, if available.

(1) While pressing the small green button on the POWER switch, slide it to PLAYER.

(2) Set EDIT to ON in the menu system.

Edición en otra cinta

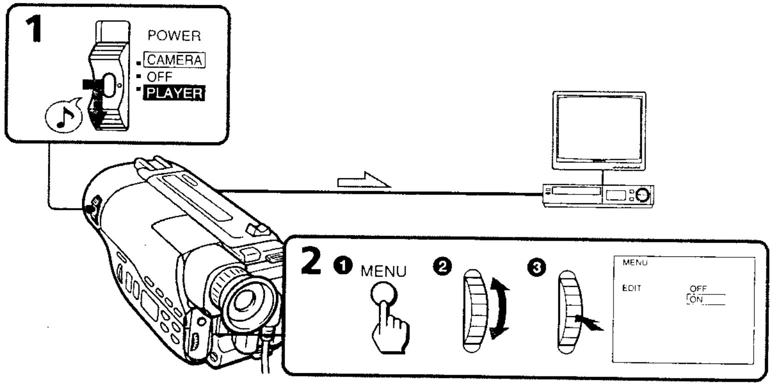
Usted podrá crear su propio programa de vídeo editando con cualquier otra videograbadora de formato de 8mm 8, 8 mm de Hi8 Hi8, VHS VHS, S-VHS S-VHS, VHSC VHSC, S-VHSC S-VHSC o Betamax B que disponga de entradas de vídeo/audio.

Antes de la edición

Conecte la videocámara a la videograbadora como se ha descrito en "Conexiones para la reproducción" de la página 21.
Ponga el selector de entrada de la videograbadora en LINE, si tuviese esa posición.

(1) Manteniendo presionado el pequeño botón verde del selector POWER, póngalo en PLAYER.

(2) Ponga EDIT en ON en el sistema del menú.



: Signal flow/Flujo de la señal

Starting editing

(1) Insert a blank tape (or a tape you want to record over) into the VCR, and insert your recorded tape into the camcorder.
(2) Play back the recorded tape on the camcorder until you locate the point where you want to start editing, then press **II** to set the camcorder in playback pause mode.
(3) On the VCR, locate the recording start point and set the VCR in recording pause mode.
(4) Press **II** on the camcorder and VCR simultaneously to start editing.

To edit more scenes

Repeat steps 2 to 4.

To stop editing

Press □ on both the camcorder and the VCR.

Note on the DISPLAY function

If you have displayed the viewfinder screen indicators on the TV, erase the indicators by pressing DISPLAY on the Remote Commander so that they will not be superimposed on the edited tape.

Inicio de la edición

(1) Inserte un videocassette en blanco (o una cinta en la que desee realizar la regrabación) en la videograbadora y la cinta grabada en la videocámara.
(2) Reproduzca la cinta grabada en la videocámara hasta localizar el punto en el que desee comenzar la edición, y después presione **II** para poner la videocámara en el modo de reproducción en pausa.
(3) En la videograbadora, localice el punto de inicio de la grabación y ponga la videograbadora en el modo de grabación en pausa.
(4) Presione simultáneamente **II** de la videocámara y la videograbadora para comenzar la edición.

Para editar más escenas

Repita los pasos 2 a 4.

Para cesar la edición

Presione □ de la videocámara y la videograbadora.

Nota sobre la función DISPLAY

Si ha visualizado los indicadores de la pantalla del visor en el televisor, borre los indicadores presionando DISPLAY del telemando para que no se superpongan sobre la cinta editada.

Additional Information

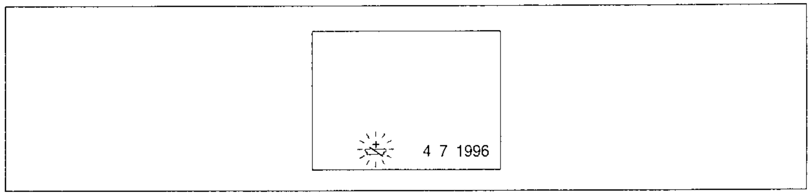
Changing the lithium battery in the camcorder

Información adicional

Reemplazo de la pila de litio de la videocámara

Your camcorder is supplied with a lithium battery installed. When the battery becomes weak or dead, the ☼ indicator flashes in the viewfinder for about 5 seconds when you set the POWER switch to CAMERA. In this case, **replace the battery with a Sony CR2025 lithium battery. Use of any other battery may present a risk of fire or explosion.**
The lithium battery for the camcorder lasts for about 1 year under normal operation. (The lithium battery that comes installed at the factory may not last 1 year.)

La videocámara se suministra con una pila de litio instalada. Cuando la pila de litio se debilite o agote, el indicador ☼ parpadeará en el visor durante unos 5 segundos cuando ponga el selector POWER en CAMERA. En este caso, **reemplace la pila por otra de litio CR2025 Sony. El empleo de otra pila puede suponer un riesgo de incendio o explosión.**
La pila de litio durará aproximadamente 1 año si se utiliza en condiciones normales de funcionamiento. (Es posible que la pila instalada en fábrica no dure 1 año.)

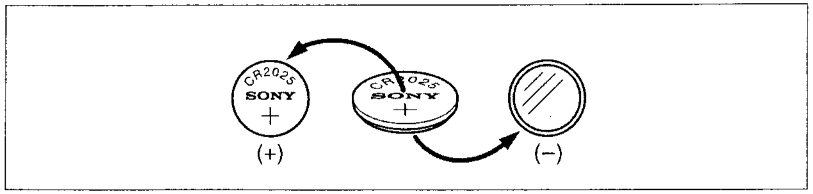


Note on lithium battery

The lithium battery has positive (+) side and negative (–) side as illustrated. **Be sure to insert the lithium battery with the positive side facing out.**

Nota sobre la pila de litio

La pila de litio posee un lado positivo (+) y otro negativo (–) como se ilustra. **Cerciórese de colocar la pila con el lado positivo hacia afuera.**



WARNING

The battery may explode if mistreated. Do not recharge, disassemble, or dispose of in fire.

Caution

Keep the lithium battery out of the reach of children. Should the battery be swallowed, consult a doctor immediately.

ADVERTENCIA

Si trata mal la pila, puede explotar. No recargue, desarme, ni tire la pila al fuego.

Precaución

Mantenga la pila de litio fuera de alcance de los niños. Si alguien traga la pila, consulte inmediatamente a un médico.

Changing the lithium battery

When replacing the lithium battery, keep the battery pack or other power source attached. Otherwise, you will need to reset the date, time and other items in the menu system retained by the lithium battery.

(1) Open the lid of the lithium battery compartment.

(2) Push the lithium battery down once and pull it out from the holder.

(3) Install the lithium battery with the positive (+) side facing out. Close the lid.

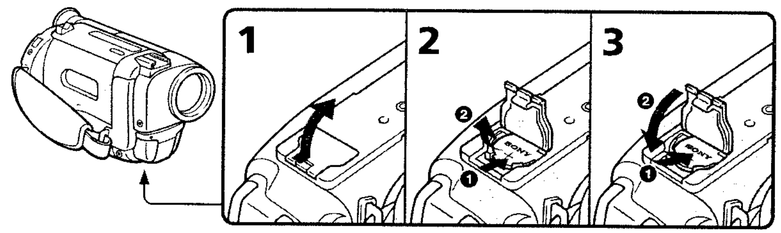
Reemplazo de la pila de litio

Durante el reemplazo de la pila de litio, mantenga la batería u otra fuente de alimentación conectada. De lo contrario, deberá reajustar la fecha, la hora y los otros ítems en el sistema del menú mantenidos mediante la pila de litio.

(1) Abra la tapa del compartimiento de la pila de litio.

(2) Empuje la pila una vez hacia abajo y sáquela del portapila.

(3) Coloque una pila de litio nueva con el lado positivo (+) hacia afuera. Cierre la tapa.



Resetting the date and time

You can set the date and time in the menu system.

(1) Press MENU to display the menu in the viewfinder.

(2) Turn the control dial to highlight CLOCK SET, and press the control dial to select it.

(3) Turn the control dial to adjust the year, and then press the control dial.

(4) Set the month, day, hour, and minutes by turning the control dial and then pressing the control dial.

(5) Press MENU to erase the menu display.

Reajuste de la fecha y la hora

La fecha y la hora podrán reajustarse en el sistema del menú.

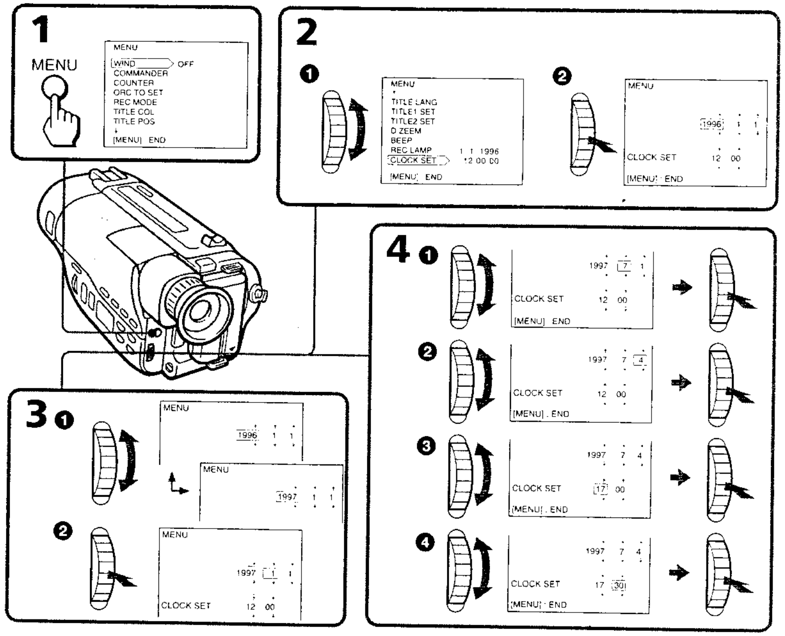
(1) Presione MENU para visualizar el menú en el visor.

(2) Gire el dial de control para resaltar CLOCK SET y presione el dial para seleccionarlo.

(3) Gire el dial de control para ajustar el año, y presione el dial.

(4) Ajuste el mes, día, hora y minutos girando y presionando el dial.

(5) Presione MENU para borrar la visualización del menú.


1
MENU
MENU
WIND OFF
COMMANDER
COUNTER
ORC TO SET
REC MODE
TITLE COL
TITLE POS
[MENU] END
2
❶
MENU
TITLE LANG
TITLE1 SET
TITLE2 SET
D ZEEM
BEEP
REC LAMP
CLOCK SET
1 1 1996
12 00 00
[MENU] END
❷
MENU
1996 1 1
CLOCK SET 12 00
[MENU] END
3 ❶
MENU
1996 1 1
MENU
1997 1 1
❷
MENU
1997 1 1
CLOCK SET 12 00
4 ❶
1997 7 1
CLOCK SET 12 00
[MENU] END
❷
1997 7 4
CLOCK SET 12 00
[MENU] END
❸
1997 7 4
CLOCK SET 17 00
[MENU] END
❹
1997 7 4
CLOCK SET 17 30
[MENU] END

To correct the date and time setting

Repeat the above procedure.

Para corregir los ajustes de la fecha y la hora

Repita los pasos anteriores.

To check the preset date and time

Press DATE to display the date indicator in the viewfinder.
Press TIME to display the time indicator.
When you press the same button again, the indicator goes off.

The year changes as follows:

1996 ←→ 1997 ←— ···· —→ 2029

Note on the time indicator
The internal clock of this camcorder operates on a 24-hour cycle.

Para comprobar la fecha y la hora preajustadas

Presione DATE de forma que el indicador de la fecha aparezca en el visor.
Presione TIME para visualizar el indicador de la hora. Cuando vuelva a presionar la misma tecla, el indicador se apagará.

El indicador del año cambiará como sigue:

1996 ←→ 1997 ←— ···· —→ 2029

Nota sobre el indicador horario
El reloj interno de la videocámara funciona con el ciclo de 24 horas.

Usable cassettes and playback modes

Videocassettes utilizables y modos de reproducción

Selecting cassette types (CCD-TR760E/TR810E only)

This Hi8 system is an extension of the standard 8 mm system, and was developed for higher-quality pictures.
You can use Hi8 video and standard 8 mm cassettes. When you want to record in the Hi8 system, use only Hi8 video cassettes. You cannot record on standard 8 mm cassettes in the Hi8 system.
If you are going to play back the tape using the standard 8 mm video recorder/player, you should use standard 8 mm cassettes.

To play back in	Record using cassette type
Hi8	Hi8
Standard 8	8

Selección del tipo de videocassette (CCD-TR760E/TR810E solamente)

Este sistema Hi8 se desarrolló a partir del sistema de 8 mm estándar ofreciendo mayor calidad en la imagen.
Usted podrá utilizar los videocassettes Hi8 y los de 8 mm estándar. Cuando desee grabar en el sistema Hi8, deberá utilizar solamente videocassettes Hi8. Un videocassette de 8 mm estándar no podrá grabarse en el sistema Hi8.
Cuando vaya a reproducir la cinta en una videograbadora/reproductor de 8 mm estándar, deberá utilizar videocassettes de 8 mm estándar.

Para reproducir en el sistema	Grabación empleando un videocassette de tipo
Hi8	Hi8
8 mm estándar	8

Usable cassettes and playback modes

Videocassettes utilizables y modos de reproducción

When you play back

The playback mode (SP/LP or Hi8/standard 8 mm (CCD-TR760E/TR810E only)) is selected automatically according to the format in which the tape has been recorded. The quality of the recorded picture in LP mode, however, will not be as good as that in SP mode.

Note on AFM HiFi stereo

When you play back a tape, the sound will be in monaural if:
- You record the tape using this camcorder, then play it back on an AFM HiFi monaural video recorder/player.
- You record the tape on an AFM HiFi monaural video recorder, then play it back on this camcorder.

Recording mode

When you play back a tape, the SP/LP indicator in the viewfinder shows the recording mode SP/LP.

Playing back an NTSC-recorded tape
You can play back tapes recorded in the NTSC video system using the SP mode. If the tape is recorded in the AFM HiFi system, the AFM HiFi sound is reproduced. However, note that the following will occur during playback of an NTSC-recorded tape.

Cuando reproduzca

El modo de reproducción (SP/LP o Hi8/8 mm estándar (CCD-TR760E/TR810E solamente)) se seleccionará automáticamente de acuerdo con el formato en el que se haya grabado la cinta. Sin embargo, la calidad de la imagen grabada en el modo LP no será tan buena como en el modo SP.

Notas sobre el modo estéreo de alta fidelidad de AFM

Cuando reproduzca una cinta, el sonido será monoaural si:
- Reproduce una cinta grabada en esta videocámara en una videograbadora/reproductor monoaural de alta fidelidad de AFM.
- Reproduce en esta videocámara una cinta grabada en una videograbadora monoaural de alta fidelidad de AFM.

Modo de grabación

Cuando reproduzca una cinta, el indicador SP/LP en el visor señalará el modo de grabación SP/LP.

Reproducción de una cinta grabada con el sistema NTSC
Es posible reproducir cintas grabadas con el sistema de vídeo NTSC utilizando el modo SP. Si la cinta está grabada con el sistema de alta fidelidad de AFM, se reproducirá el sonido de alta fidelidad de AFM. Sin embargo, tenga en cuenta que durante la reproducción de una cinta grabada con el sistema NTSC se producirá lo siguiente.

- You cannot play back a tape recorded in NTSC video system with LP mode.
- If a tape has portions recorded in PAL and NTSC video systems, the tape counter reading is not correct. This discrepancy is due to the difference between the counting cycle of the two video systems.
- You cannot edit the NTSC-recorded tape onto another VCR.
- When you play back on a Multi System TV, set NTSC PB to the appropriate mode in the menu system.

- No es posible reproducir una cinta grabada con el sistema NTSC en el modo LP.
- Si la cinta tiene partes grabadas con los sistemas de vídeo PAL y NTSC, la indicación del contador de la cinta no será correcta. La discrepancia se debe a la diferencia del ciclo de recuento de los dos sistemas de vídeo.
- La cinta grabada con el sistema NTSC no podrá editarse en otra videograbadora.
- Cuando reproduzca una cinta en un televisor de sistema múltiple, ponga NTSC PB en el modo deseado en el sistema del menú.

Tips for using the battery pack

This section shows you how you can get the most out of your battery pack.

Preparing the battery pack

Always carry additional batteries

Have sufficient battery pack power to do 2 to 3 times as much recording as you have planned.

Battery life is shorter in a cold environment

Battery efficiency is decreased, and the battery will be used up more quickly, if you are recording in a cold environment.

To save battery power

Turn STANDBY down when not recording to save battery power.
A smooth transition between scenes can be made even if recording is stopped and started again. While you are positioning the subject, selecting an angle, or looking through the viewfinder lens, the lens moves automatically and the battery is used. The battery is also used when a tape is inserted or removed.

Consejos para utilizar la batería

En esta sección se explica la forma de obtener el máximo rendimiento de la batería.

Preparación de la batería

Lleve siempre baterías adicionales

Prepare suficientes baterías como para poder alimentar la videocámara el doble o el triple del tiempo de filmación planeada.

La duración de la batería se acortará en climas fríos.

La eficacia de la batería disminuirá y se gastará con mayor rapidez si graba en climas fríos.

Para ahorrar batería

Gire el interruptor STANDBY hacia abajo cuando no vaya a videofilmar a fin de ahorrar batería.
Aunque detenga y reinicie la filmación, obtendrá una grabación sin transiciones bruscas entre las escenas. Mientras encuadre el motivo o seleccione un ángulo, u observe a través del visor, el objetivo se moverá automáticamente y se utilizará la batería. La batería también se utilizará al insertar o extraer un videocassette.

Tips for using the battery pack

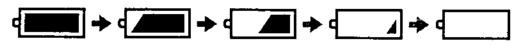
Consejos para utilizar la batería

When to replace the battery pack

While you are using your camcorder, the remaining battery indicator in the viewfinder decreases gradually as battery power is used up.
The minute indicator appears with the remaining battery indicator while recording.

Cuándo reemplazar la batería

Mientras esté utilizando la videocámara, el indicador de carga restante de la batería disminuirá gradualmente a medida que se reduzca la carga de la batería.
Eel indicador de los minutos aparecerá junto con el indicador de caga restante de la batería durante la grabación.



When the remaining battery indicator reaches the lowest point, the ⊂⊐ indicator appears and starts flashing in the viewfinder.
When the ⊂⊐ indicator in the viewfinder changes from slow flashing to rapid flashing while you are recording, slide the POWER switch to OFF on the camcorder and replace the battery pack.
Leave the tape in the camcorder to obtain a smooth transition between scenes after the battery pack has been replaced. The mark may start flashing even when the battery has enough power to last about 5 or 10 minuts.

Cuando el indicador de carga restante de la batería llegue al punto mínimo, en el visor aparecerá el indicador ⊂⊐ y comenzará a parpadear.
Cuando el indicador ⊂⊐ en el visor cambie de parpadeo lento a rápido mientras grabe, ponga el selector POWER de la videocámara en OFF y reemplace la batería. Deje el videocassette en la videocámara para obtener una grabación sin transiciones bruscas entre las escenas después de haber reemplazado la batería. Es posible que la marca comience a parpadear incluso aunque la batería tenga suficiente energía como para unos 5 o 10 minutos más.

Notes on the rechargeable battery pack

Caution

Never leave the battery pack in temperatures above 60°C (140°F), such as in a car parked in the sun or under direct sunlight.

The battery pack heats up

During charging or recording, the battery pack heats up. This is caused by energy that has been generated and a chemical change that has occurred inside the battery pack. This is not cause for concern and is normal.

Notas sobre la batería

Precaución

Nunca deje la batería a temperaturas superiores a los 60°C, como en un automóvil aparcado al sol o bajo la luz solar directa.

La batería se calentará

Durante la carga o la grabación, la batería se calentará. Esto se debe a la energía generada y al cambio químico que se producen en el interior de la batería, y no significa problema alguno.

About ⓘ *InfoLITHIUM* batteries

The "InfoLITHIUM" is a lithium ion battery pack which can exchange data with compatible video equipment about its battery consumption. Sony recommends that you use the "InfoLITHIUM" battery pack with video equipment having the ⓘ *InfoLITHIUM* mark.

When you use this battery pack with video equipment having the ⓘ *InfoLITHIUM* mark, the video equipment will indicate the remaining battery time in minutes*. However, if you use it with video equipment not having this mark, the remaining battery capacity will not be indicated in minutes.

* The indication may not be accurate depending on the condition and environment which the equipment is used under. If the indication is not accurate, use the battery pack completely and then charge it fully. The indication will become accurate. However, the indication may not become accurate if you use or leave the battery pack in a warm place for a long time, or after you have used the battery pack many times.

Battery pack care

- **Remove the battery pack from the camcorder after using it,** and keep it in a cool place. When the battery pack is installed to the camcorder, a small amount of current flows to the camcorder even if the POWER switch is set to OFF. This shortens battery life.
- The battery pack is always discharging even when it is not in use after charging. Therefore, you should charge the battery pack right before using the camcorder.

Sobre las baterías ⓘ *InfoLITHIUM*

La batería InfoLITHIUM es una batería de iones de litio que puede intercambiar datos con equipos de vídeo compatibles en cuanto al consumo de la batería. Se recomienda utilizar la batería InfoLITHIUM con equipos que tengan la marca ⓘ *InfoLITHIUM*.

Cuando utilice esta batería con un equipo de vídeo que posea la marca ⓘ *InfoLITHIUM*, el equipo de vídeo señalará el tiempo de capacidad restante de la batería en minutos*. Sin embargo, cuando utilice esta batería con un equipo de vídeo sin dicha marca, la capacidad restante de la batería no se indicará en minutos.

* La indicación puede no ser precisa dependiendo de la condición o el entorno donde se utilice el equipo. Cuando la indicación no sea precisa, utilice completamente la batería y cárguela por completo. La indicación se volverá precisa, pero es posible que no lo sea si utiliza o deja la batería en un lugar cálido durante mucho tiempo, o la ha utilizado muchas veces.

Cuidado de la batería

- **Después de haber empleado la batería quítela de la videocámara** y guárdela en un lugar fresco. Mientras la batería esté fijada a la videocámara, circulará una pequeña cantidad de corriente incluso aunque el selector POWER esté en OFF. Esto acortará la duración útil de la batería.
- La batería estará siempre descargándose, incluso aunque no se utilice. Por lo tanto, se recomienda cargarla antes de emplear la videocámara.

Tips for using the battery pack

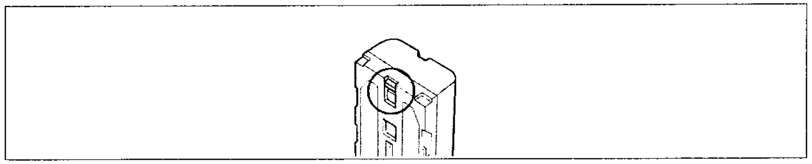
The switch on the battery pack

This switch is provided so that you can mark the charged battery pack. Set the switch to the "green mark" position when charging is completed. (When removed from the charging adaptor, the switch exposes the green mark. When removed from your camcorder, no mark is indicated.)

Consejos para utilizar la batería

Señalador de la batería

Este señalador servirá para saber si la batería está cargada o no. Póngalo en la posición de la "marca verde" cuando finalice la carga. (Cuando quite la batería del adaptador de carga, el señalador mostrará la marca verde. Cuando la quite de la videocámara, no aparecerá ninguna marca.)



The life of the battery pack

If the battery indicator flashes rapidly just after turning on the camcorder with a fully charged battery pack, the battery pack should be replaced with a new fully charged one.

Charging temperature

You should charge batteries at temperatures from 10°C to 30°C (from 50°F to 86°F). Lower temperatures require a longer charging time.

Notes on charging

A brand-new battery pack

A brand-new battery pack is not charged. Before using the battery pack, charge the battery. When the CHARGE lamp goes out normal charge is completed. For full charge, which allows you to use the battery longer than usual leave the battery pack in place for approximately one hour.

Recharge the battery pack whenever you like

You do not have to discharge it before recharging. If you charged the battery pack fully but you did not use it for a long time, it becomes discharged. Then recharge the battery pack before use.

Vida útil de la batería

Si el indicador de estado de la batería parpadea rápidamente después de haber conectado la alimentación de la videocámara con una batería completamente cargada, habrá que reemplazarla por otra nueva completamente cargada.

Temperatura durante la carga

Cargue la batería a una temperatura comprendida entre 10 y 30°C. A bajas temperaturas, la carga tardará más en realizarse.

Notas sobre la carga

Baterías nuevas

Una batería nueva no estará cargada. Cargue la batería antes de utilizarla. Cuando la lámpara CHARGE se apague, terminará la carga normal. Para la carga completa, que le permite utilizar la batería más de lo usual, deje la batería en su lugar durante aproximadamente una hora más.

Cargue la batería cuando lo desee

No será necesario descargar la batería antes de cargarla. Si ha cargado completamente la batería pero no la emplea durante mucho tiempo, ésta se descargará. Cargue la batería antes de emplearla.

Notes on the terminals

If the terminals (metal parts on the back) are not clean, the battery charge duration will be shortened.
When the terminals are not clean or when the battery pack has not been used for a long time, repeatedly install and remove the battery pack a few times. This improves the contact condition. Do not put any foreign objects such as dust or sand in the ⊕ and ⊖ terminals.

Be sure to observe the following

- Keep the battery pack away from fire.
- Keep the battery pack dry.
- Do not open nor try to disassemble the battery pack.
- Do not expose the battery pack to any mechanical shock.

Notes on the Battery Case

- **Use only with alkaline batteries. You cannot use the battery case with manganese batteries or rechargeable batteries.**
- Battery life is remarkably shorter in a cold environment (lower than 50°F/10°C).
- Keep the metal part clean. If it gets dirty, wipe it with a soft cloth.
- Do not disassemble or convert the battery case.
- Do not expose the battery case to any mechanical shock.
- During recording, the battery case heats up. This is not cause for concern.
- Prevent the electrode in the battery case from coming in contact with a metal object.
- If you will not use the battery case for a long time, detach the battery case from the camcorder and remove the batteries from the battery case.

Note on Alkaline Batteries

To avoid possible damage from battery leakage or corrosion, observe the following.

- Be sure to insert the batteries in the correct direction.
- Alkaline batteries are not rechargeable.
- Do not use a combination of new and old batteries.
- Do not use different types of batteries.
- The batteries slowly discharge while not in use.
- Do not use a battery that is leaking.

Nota sobre los terminales

Si los terminales (partes metálicas de la parte posterior) no están limpios, la duración de la batería se acortará.
Cuando los terminales no estén limpios o no haya utilizado la batería durante mucho tiempo, fije y quite la batería repetidamente. Esto mejorará el contacto. No coloque ningún objeto extraño como polvo o arena en los terminales ⊕ y ⊖.

Tenga en cuenta lo siguiente.

- Mantenga la batería alejada del fuego.
- Mantenga seca la batería.
- No abra ni desarme la batería.
- No la someta a ninguna clase de golpes.

Notas sobre la caja de pilas

- **Utilícela solamente con pilas alcalinas. No podrá utilizar la caja de pilas con pilas de manganeso o baterías.**
- La duración de las pilas se acortará notablemente en climas fríos (inferior a 10°C).
- Mantenga limpia la parte metálica. Si se ensucia, límpiela con un paño suave.
- No desarme ni deforme la caja de pilas.
- No le dé ninguna clase de golpes.
- Durante la grabación, la caja de pilas se calentará. Esto no es motivo de preocupación.
- Evite que el electrodo en la caja de pilas entre en contacto con un objeto metálico.
- Cuando no vaya a utilizar la caja de pilas durante mucho tiempo, quite la caja de la videocámara y extraiga las pilas de la caja.

Notas sobre las pilas alcalinas

Para evitar los posibles daños que podría causar la fuga o corrosión de las pilas, tenga en cuenta lo siguiente.

- Cerciórese de colocar correctamente las pilas.
- Las pilas alcalinas no se pueden cargar.
- No utilice pilas nuevas junto con las viejas.
- No utilice a la vez pilas de tipos diferentes.
- Las pilas se descargarán gradualmente si no las utiliza.
- No emplee una pila con derrame.

Tips for using the battery pack

If battery leakage occurred

- Wipe off the liquid in the battery case carefully before replacing the batteries.
- If you touch the liquid, wash it off with water.
- If the liquid get into your eyes, wash your eyes with a lot of water and then consult a doctor.

Consejos para utilizar la batería

Cuando el líquido de las pilas se derrame

- Limpie cuidadosamente el líquido en la caja de pilas antes de volver a colocar las pilas.
- Si toca el líquido, lávese con agua.
- Si el líquido le entra en los ojos, lávelos con mucha cantidad de agua y después consulte con un médico.

Maintenance information and precautions

Moisture condensation

If the camcorder is brought directly from a cold place to a warm place, moisture may condense inside the camcorder, on the surface of the tape, or on the lens. In this condition, the tape may stick to the head drum and be damaged or the unit may not operate correctly. To prevent possible damage under these circumstances, the camcorder is furnished with moisture sensors. Please, take the following precautions.

Inside the camcorder

If there is moisture inside the camcorder, the beep sounds and the ▣ indicator flashes. If this happens, none of the functions except cassette ejection will work. Open the cassette compartment, turn off the camcorder, and leave it about 1 hour. When ⏏ indicator flashes at the same time, the cassette is inserted in the camcorder. Eject the cassette, turn off the camcorder, and leave also the cassette about 1 hour.

Información sobre el mantenimiento y precauciones

Condensación de humedad

Si traslada directamente la videocámara de un lugar frío a otro cálido, es posible que se condense humedad en su interior, en la superficie de la cinta, o en el objetivo. En tales condiciones, la cinta puede adherirse al tambor de cabezas y estropearse, o la videocámara puede no funcionar adecuadamente. Para evitar la posibilidad de daños en estas circunstancias, la videocámara dispone de sensores de humedad. Sin embargo, tenga en cuenta las precauciones siguientes.

En el interior de la videocámara

Cuando el indicador ▣ parpadee y se oiga un pitido, se habrá condensado humedad en el interior de la videocámara. En este caso, no trabajará ninguna función excepto la de expulsión del videocassette. Abra el compartimiento del videocassette, desconecte la alimentación de la videocámara, y déjela durante aproximadamente 1 hora. Si el indicador ⏏ parpadea al mismo tiempo, habrá un cassette insertado en la videocámara. Extraiga el videocassette, desconecte la alimentación de la videocámara y también deje el videocassette durante 1 hora aproximadamente.

On the lens

If moisture condenses on the lens, no indicator appears, but the picture becomes dim. Turn off the power and do not use the camcorder for about 1 hour.

How to prevent moisture condensation

When bringing the camcorder from a cold place to a warm place, put the camcorder in a plastic bag and allow it to adapt to room conditions over a period of time.

(1) Be sure to tightly seal the plastic bag containing the camcorder.
(2) Remove the bag when the air temperature inside it has reached the temperature surrounding it (after about 1 hour).

Video head cleaning

To ensure normal recording and clear pictures, clean the video heads. When the ⊗ indicator and "📼 CLEANING CASSETTE" message appear one after another in the viewfinder or playback pictures are "noisy" or hardly visible, the video heads may be dirty.

En el objetivo

Si se condensa humedad en el objetivo, no aparecerá ningún indicador, pero la imagen se volverá borrosa. Desconecte la alimentación y no utilice la videocámara durante aproximadamente 1 hora.

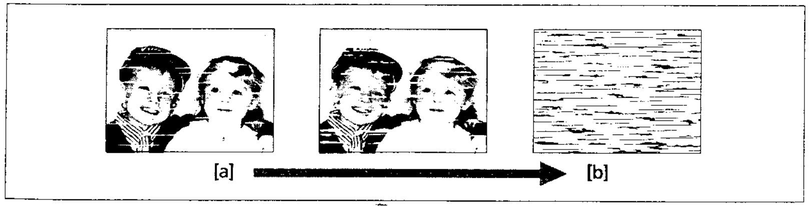
Cómo prevenir la condensación de humedad

Cuando traslade la videocámara de un lugar frío a otro cálido, coloque la videocámara en una bolsa de plástico y deje que se adapte a las condiciones ambientales de la habitación durante cierto tiempo.

(1) No se olvide de cerrar firmemente la bolsa de plástico que contiene la videocámara.
(2) Saque la videocámara de la bolsa cuando la temperatura del aire del interior de la bolsa haya alcanzado la ambiental (después de 1 hora aproximadamente).

Limpieza de las cabezas de vídeo

Para asegurar una grabación normal y unas imágenes claras, limpie las cabezas de vídeo. Cuando el indicador ⊗ y el mensaje "📼 CLEANING CASSETTE" aparezcan uno después del otro en el visor o las imágenes reproducidas sean "ruidosas" o difíciles de ver, es posible que las cabezas de vídeo estén sucias.



[a] Slightly dirty
[b] Very dirty

If this happens, clean the video heads with the Sony V8-25CLH cleaning cassette (not supplied). After checking the picture, if it is still "noisy," repeat the cleaning. (Do not repeat cleaning more than 5 times in one session.)

[a] Cabezas ligeramente sucias
[b] Cabezas muy sucias

Si pasa esto, limpie las cabezas de vídeo con un cassette de limpieza V8-25CLH Sony (no suministrado). Después de la limpieza, si las imágenes siguen "ruidosas", repita la limpieza. (No repita la limpieza más de 5 veces seguidas.)

Caution

Do not use a commercially available wet-type cleaning cassette. It may damage the video heads.

Note

If the V8-25CLH cleaning cassette is not available in your area, consult your nearest Sony dealer.

Precaución

No utilice cassettes de limpieza de tipo húmedo adquiribles en tiendas del ramo, ya que podrían dañar las cabezas de vídeo.

Nota

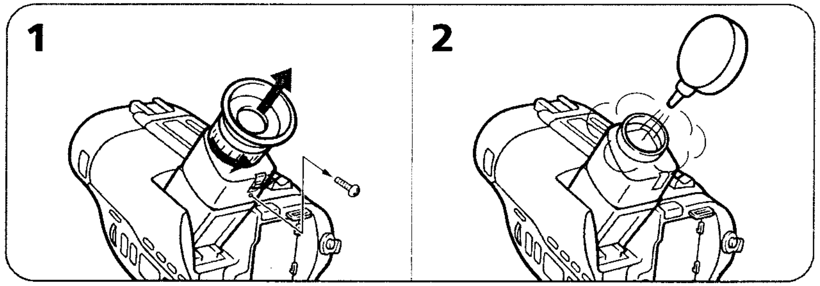
Si el cassette de limpieza V8-25CLH no está disponible en su zona, consulte a un centro de servicios Sony.

Removing dust from inside the viewfinder

(1) Remove the screw with a screwdriver (not supplied). Then, while holding down RELEASE on the viewfinder barrel, turn the eyecup in the direction of the arrow and pull it out.
(2) Clean the surface with a commercially available blower.

Para quitar el polvo del interior del visor

(1) Quite el tornillo con un destornillador (no suministrado). Manteniendo presionada RELEASE en el tubo del visor, gire el ocular en el sentido de la flecha y quítelo.
(2) Limpie la superficie con un soplador disponible en tiendas del ramo.

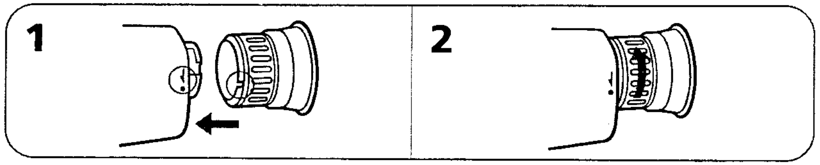


To reattach the eyecup

(1) Align the groove on the eyecup with the • mark on the barrel.
(2) Turn the eyecup in the direction of the arrow. Then, replace the screw.

Para volver a colocar el ocular

(1) Alinee la ranura en el ocular con la marca • del tubo.
(2) Gire el ocular en el sentido de la flecha. Después vuelva a colocar el tornillo.



Caution

Do not remove any other screws. You may remove only the screws to remove the eyecup.

Precaución

No quite ningún otro tornillo. Usted solamente deberá quitar el tornillo para desmontar el ocular.

Precautions

Camcorder operation

- Operate the camcorder on 7.2 V (battery pack) or 8.4 V (AC power adaptor).
- For DC or AC operation, use the accessories recommended in this manual.
- Should any solid object or liquid get inside the casing, unplug the camcorder and have it checked by a Sony dealer before operating it any further.
- Avoid rough handling or mechanical shock. Be particularly careful of the lens.
- Keep the POWER switch set to OFF when not using the camcorder.
- Do not wrap up the camcorder and operate it since heat may build up internally.
- Keep the camcorder away from strong magnetic fields or mechanical vibration.

On handling tapes

Do not insert anything in the small holes on the rear of the cassette. These holes are used to sense the type of tape, thickness of tape and if the recording tab is in or out.

Camcorder care

- When the camcorder is not to be used for a long time, disconnect the power source and remove the tape. Periodically turn on the power, operate the camera and player sections and play back a tape for about 3 minutes.
- Clean the lens with a soft brush to remove dust. If there are fingerprints on it, remove them with a soft cloth.
- Clean the camcorder body with a dry soft cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent which may damage the finish.

Precauciones

Operación de la videocámara

- Alimente la videocámara con 7,2 V (batería) o 8,4 V (adaptador de alimentación de CA).
- Para alimentarla con CC o CA, utilice sólo los accesorios recomendados en este manual.
- Si dentro de la videocámara cae algún objeto sólido o líquido, desenchufe la videocámara y haga que sea revisada por su proveedor Sony antes de reutilizarla.
- Evite tratos bruscos o golpes. Tenga especial cuidado con el objetivo.
- Cuando no vaya a utilizar la videocámara, ponga el selector POWER en OFF.
- No utilice la videocámara envuelta, porque se recalentaría.
- Mantenga la videocámara alejada de campos magnéticos intensos y vibraciones mecánicas.

Cuidado del videocassette

No inserte nada en los pequeños orificios de la parte posterior del videocassette. Estos orificios se utilizan para detectar el tipo de cinta, su grosor, o si la lengüeta está o no deslizada.

Cuidados de la videocámara

- Cuando no vaya a utilizar la videocámara durante mucho tiempo, desconecte la fuente de alimentación y extraiga el videocassette. Conecte periódicamente la alimentación, haga funcionar las secciones de la videocámara y el reproductor, y reproduzca una cinta durante unos 3 minutos.
- Limpie el polvo del objetivo con un cepillo suave. Elimine las huellas dactilares con un paño suave.
- Limpie el cuerpo de la videocámara con un paño suave y seco, o ligeramente humedecido en una solución muy diluida de detergente. No emplee ningún tipo de disolvente ya que podría dañar la terminación.

Maintenance information and precautions

AC power adaptor

Charging

- Use only a lithium ion type battery pack.
- Place the battery pack on a flat surface without vibration during charging.
- The battery pack will get hot during charging. This is normal.

Others

- Unplug the unit from the mains when not in use for a long time. To disconnect the mains lead, pull it out by the plug. Never pull the mains lead itself.
- Do not operate the unit with a damaged cord or if the unit has been dropped or damaged.
- Do not bend the AC mains lead forcibly, or put a heavy object on it. This will damage the cord and may cause a fire or electrical shock.
- Be sure that nothing metallic comes into contact with the metal parts of the connecting plate. If this happens, a short may occur and the unit may be damaged.
- Always keep the metal contacts clean.
- Do not disassemble the unit.
- Do not apply mechanical shock or drop the unit.
- While the unit is in use, particularly during charging, keep it away from AM receivers and video equipment because it will disturb AM reception and video operation.
- The unit becomes warm while in use. This is normal.
- Do not place the unit in locations that are:
  - Extremely hot or cold
  - Dusty or dirty
  - Very humid
  - Vibrating

If any difficulty should arise, unplug the unit and contact your nearest Sony dealer.

Información sobre el mantenimiento y precauciones

Adaptador de alimentación de CA

Carga

- Utilice solamente una batería de tipo iones de litio.
- Cargue la batería sobre una superficie plana sin vibraciones.
- La batería se calentará durante la carga. Esto es normal.

Otros

- Cuando no vaya a utilizar la unidad durante mucho tiempo, desenchúfela de la toma de la red. Para desconectar el cable de alimentación, tire del enchufe. No tire nunca del propio cable.
- No emplee la unidad con el cable dañado, después de haberla dejado caer, o cuando esté dañada.
- No doble a la fuerza el cable de alimentación de CA, ni coloque objetos pesados sobre él, ya que podría dañar el cable y provocar incendios o descargas eléctricas.
- Cerciórese de que ningún objeto metálico entre en contacto con las partes metálicas de la placa conectora, ya que se podría producir un cortocircuito que dañaría la unidad.
- Mantenga siempre limpios los contactos metálicos.
- No desarme la unidad.
- No golpee ni deje caer la unidad.
- Cuando esté empleando la unidad, especialmente durante la carga, manténgala alejada de receptores de AM y equipos de vídeo porque perturbaría la recepción de AM y la operación de vídeo.
- La unidad se calentará durante el empleo. Pero esto es normal.
- No coloque la unidad en lugares:
  - Extremadamente cálidos o fríos
  - Polvorientos o sucios
  - Muy húmedos
  - Sujetos a vibraciones

Si surge alguna dificultad, desenchufe la unidad y póngase en contacto con su proveedor Sony.

Using your camcorder abroad

Each country has its own electric and TV colour systems. Before using your camcorder abroad, check the following points.

Power sources

You can use your camcorder in any country with the supplied AC power adaptor within 110 V to 240 V AC, 50/60 Hz.

Difference in colour systems

This camcorder is a PAL system-based camcorder. If you want to view the playback picture on a TV, it must be a PAL system-based TV.
Check the following list.

PAL system countries
Australia, Austria, Belgium, China, Denmark, Finland, Germany, Great Britain, Holland, Hong Kong, Italy, Kuwait, Malaysia, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, Thailand, etc.

PAL-M system country
Brazil

PAL-N system countries
Argentina, Paraguay, Uruguay

NTSC system countries
Bahama Islands, Bolivia, Canada, Central America, Chile, Colombia, Ecuador, Jamaica, Japan, Korea, Mexico, Peru, Surinam, Taiwan, the Philippines, the U.S.A., Venezuela, etc.

SECAM system countries
Bulgaria, Czech Republic, France, Guyana, Hungary, Iran, Iraq, Monaco, Poland, Russia, Slovak Republic, Ukraine, etc.

Utilización de la videocámara en el extranjero

Cada país posee su propio sistema de suministro eléctrico y sistema de televisión en color. Antes de utilizar su videocámara en el extranjero, verifique los puntos siguientes.

Fuentes de alimentación

Usted podrá utilizar su videocámara en cualquier país con el adaptador de alimentación de CA suministrado dentro de margen de 110 a 240 V CA, 50/60 Hz.

Diferencia en los sistemas de color

Esta videocámara está basada en el sistema PAL. Si desea ver la imagen reproducida en un televisor, éste deberá estar basado en el sistema PAL.
Compruebe la lista siguiente.

Países con el sistema PAL
Alemania, Australia, Austria, Bélgica, China, Dinamarca, España, Finlandia, Gran Bretaña, Holanda, Hong Kong, Italia, Kuwait, Malasia, Noruega, Nueva Zelanda, Portugal, Singapur, Suecia, Suiza, Tailandia, etc.

País con el sistema PAL-M
Brasil

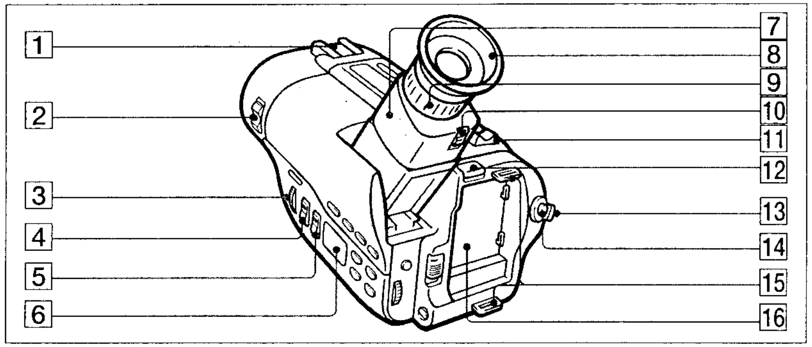
Países con el sistema PAL-N
Argentina, Paraguay, Uruguay

Países con el sistema NTSC
Bolivia, Canadá, Centroamérica, Colombia, Corea, Chile, Ecuador, EE.UU., Filipinas, Islas Bahamas, Jamaica, Japón, México, Perú, Surinam, Taiwan, Venezuela, etc.

Países con el sistema SECAM
Bulgaria, Francia, Guyana, Hungría, Irán, Iraq, Mónaco, Polonia, República de Checo, República de Eslovaquia, Rusia, Ucrania, etc.

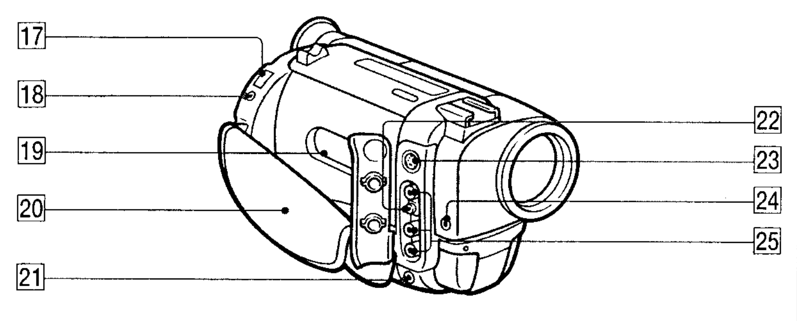
Identifying the parts

Identificación de las partes



1. **Intelligent adccessory shoe (for CCD-TR760E/TR810E only)**
   Accessory shoe (for CCD-TR610E only)
   The intelligent accessory shoe supplies power to optional accessories such as a video light.
2. **POWER switch** (p.13)
3. **FAR/NEAR dial** (p.41)
4. **FOCUS switch** (p.41)
5. **STEADY SHOT switch (CCD-TR610E/TR810E only)** (p.47)
6. **Display window** (p.104)
7. **Viewfinder** (p.14, 18, 82)
8. **Eyecup** (p.18)
9. **Viewfinder lens adjustment ring** (p.14)
10. **RELEASE knob** (p.82)
11. **Power zoom lever** (p.16)
12. **BATT (battery) PUSH button** (p.11)
13. **STANDBY switch** (p.13)
14. **START/STOP button** (p.13)
15. **Hooks for shoulder strap** (p.103)
16. **Battery mounting surface**

1. **Zapata de alimentación de accesorios (para la CCD-TR810E/TR760E solamente)**
   Zapata para accesorios (para la CCD-TR610E solamente)
   La zapata de alimentación de accesorios suministra alimentación a los accesorios opcionales como una lámpara para vídeo.
2. **Selector de alimentación (POWER)** (pág.13)
3. **Dial para el motivo lejano/cercano (FAR/NEAR)** (pág.41)
4. **Selector de enfoque (FOCUS)** (pág.41)
5. **Interruptor de videofilmación estable (STEADY SHOT) (CCD-TR610E/TR810E solamente)** (pág.47)
6. **Ventanilla visualizadora** (pág.105)
7. **Visor** (pág.14, 18, 82)
8. **Ocular** (pág.18)
9. **Anillo de ajuste de la lente del visor** (pág.14)
10. **Mando de liberación (RELEASE)** (pág.82)
11. **Palanca del zoom motorizado** (pág.16)
12. **Tecla de liberación de la batería (BATT PUSH)** (pág.11)
13. **Interruptor de espera (STANDBY)** (pág.13)
14. **Tecla de inicio/parada (START/STOP)** (pág.13)
15. **Ganchos para la bandolera** (pág.103)
16. **Superficie de montaje de la batería**



17 EJECT switch (p.12)

18 REMOTE LANC Ⓛ control jack
Ⓛ stands for Local Application Control Bus System. The Ⓛ control jack is used for controlling the tape transport of video equipment and peripherals connected to it. This jack has the same function as the jack indicated as CONTROL L or REMOTE.

19 Cassette compartment (p.12)

20 Grip strap (p.18)

21 🎧 (headphones) jack (p.24)

22 RFU DC OUT (RFU adaptor DC output) jack (p.22)

23 S VIDEO jack (CCD-TR760E/TR810E only) (p.21, 22)

24 MIC jack (PLUG IN POWER)
Connect an external microphone (not supplied). This jack also accepts a "plug-in-power" microphone.

25 VIDEO/AUDIO jacks (p.21, 22)

17 Interruptor de expulsión del videocassette (EJECT) (pág.12)

18 Toma de control remoto (REMOTE LANC Ⓛ)
Ⓛ significa sistema de control de bus de aplicación local. La toma Ⓛ se emplea para controlar el movimiento de la cinta de equipos de vídeo y dispositivos periféricos conectados a la misma. Esta toma posee la misma función que los conectores indicados como CONTROL L o REMOTE.

19 Compartimiento del videocassette (pág.12)

20 Correa de la empuñadura (pág.18)

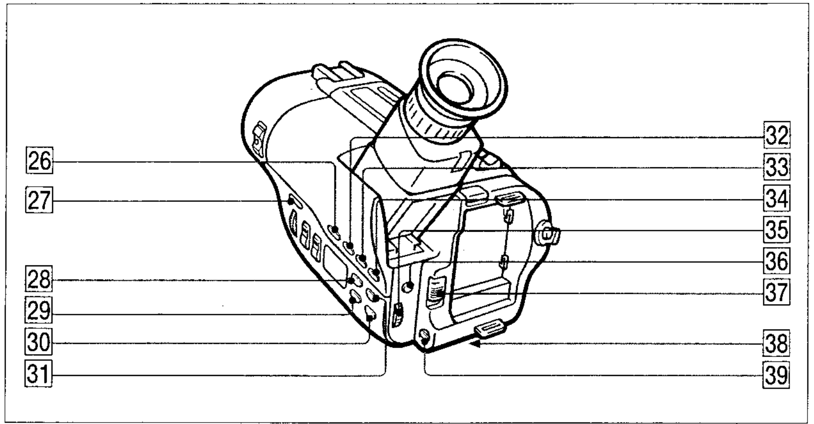
21 Toma para auriculares (🎧) (pág.24)

22 Toma de salida de CC para el adaptador de RFU (RFU DC OUT) (pág.22)

23 Toma de vídeo S (S VIDEO) (CCD-TR760E/TR810E solamente) (pág.21, 22)

24 Toma para micrófono (MIC) alimentado a través de la clavija (PLUG IN POWER)
Conéctele un micrófono externo (no suministrado). Esta toma también acepta un micrófono "alimentado a través de la clavija".

25 Tomas de vídeo/audio (VIDEO/AUDIO) (pág.21, 22)



26 BACKLIGHT button (p.44)

27 FADER button (p.34)

28 TITLE button (p.49)

29 PICTURE EFFECT button (p.38)

30 PROGRAM AE button (p.43)

31 EXPOSURE button (p.45)

32 DATE button (p.26, 53)

33 TIME button (p.26, 53)

34 COUNTER RESET button (p.15, 54, 60)

35 CONTROL dial (p.31)

36 MENU button (p.31)

37 START/STOP MODE switch (p.55)

38 Handycam station connection (CCD-TR760E/TR810E only)

39 WIDE button (p.37)

26 Tecla de iluminación de fondo (BACKLIGHT) (pág.44)

27 Tecla de aumento gradual/desvanecimiento (FADER) (pág.34)

28 Tecla del título (TITLE) (pág.49)

29 Tecla de efecto en la imagen (PICTURE EFFECT) (pág.38)

30 Tecla de exposición automática programada (PROGRAM AE) (pág.43)

31 Tecla de la exposición (EXPOSURE) (pág.45)

32 Tecla de la fecha (DATE) (pág.26, 53)

33 Tecla de la hora (TIME) (pág.26, 53)

34 Tecla de puesta a cero del contador (COUNTER RESET) (pág.15, 54, 60)

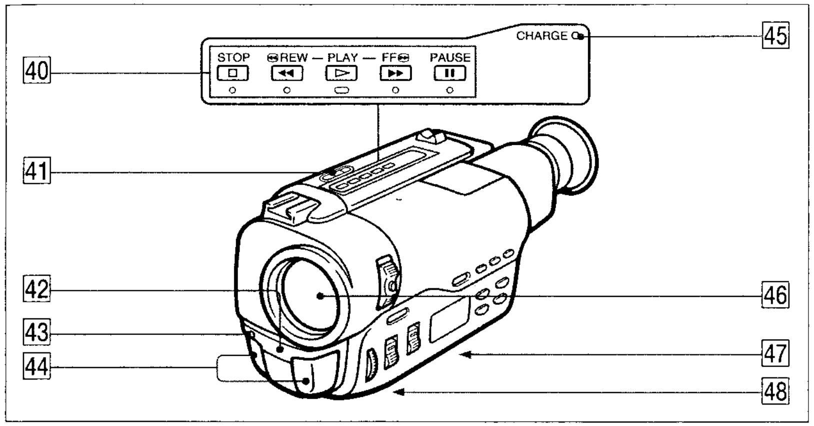
35 Dial de control (CONTROL) (pág.31)

36 Tecla del menú (MENU) (pág.31)

37 Selector de modo de inicio/parada (START/STOP MODE) (pág.55)

38 Conexión para el interconectador (CCD-TR760E/TR810E solamente)

39 Tecla de modo panorámico (WIDE) (pág.37)



40 **Tape transport buttons** (p.23)
- ☐ STOP (stop)
- ◀◀ REW (rewind)
- ▷ PLAY (playback)
- ▶▶ FF (fastforward)
- ❚❚ PAUSE (pause)

41 **EDITSEARCH button** (p.20)

42 **Remote sensor** (p.103)
Aim the Remote Commander here for remote control.

43 **Camera recording/battery lamp** (p.13)

44 **Microphone**

45 **CHARGE lamp (CCD-TR760E/TR810E only)** (p.13)

46 **Lens cover**

47 **Tripod receptacle** (p.18)

48 **Lithium battery compartment** (p.71)

40 **Teclas de transporte de la cinta** (pág.23)
- ☐ STOP (parada)
- ◀◀ REW (rebobinado)
- ▷ PLAY (reproducción)
- ▶▶ FF (avance rápido)
- ❚❚ PAUSE (pausa)

41 **Tecla de búsqueda para edición (EDITSEARCH)** (pág.20)

42 **Sensor remoto** (pág.103)
Apunte hacia aquí el telemando para controlar a distancia la videocámara.

43 **Lámpara indicadora de videofilmación/ estado de la batería** (pág.13)

44 **Micrófono**

45 **Lámpara de carga (CHARGE) (CCD-TR760E/ TR810E solamente)** (pág.13)

46 **Cubierta del objetivo**

47 **Receptáculo para trípode** (pág.18)

48 **Compartimiento de la pila de litio** (pág.71)

Identifying the parts

To Watch the demonstration

You can watch a brief demonstration of pictures with special effects.
If the demonstration appears when you turn on the camcorder for the first time, exit the demo mode to use your camcorder.

To exit Demo mode

(1) Turn the POWER switch to PLAYER.
(2) Turn STANBY up.
(3) While holding down ☐ STOP, turn the POWER switch to CAMERA.
DEMO OFF appears in the viewfinder.

To enter Demo mode

(1) Remove the cassette and turn the POWER switch to PLAYER.
(2) Turn STANBY up.
(3) While holding down ▷ PLAY, turn the POWER switch to CAMERA. Demonstration starts.

If a cassette is inserted, the demo mode will stop. Note that once you enter demo mode, this mode is retained as long as lithium battery is in place. Therefore demonstration starts automatically 10 minutes later every time you turn the POWER switch to CAMERA or 10 minutes after the cassette has been removed.

Identificación de las partes

Para ver la demostración

Usted podrá ver una breve demostración de las imágenes con efectos especiales. Si la demostración aparece al conectar la alimentación de la videocámara por primera vez, salga del modo de demostración para utilizar la videocámara.

Para salir del modo de demostración

(1) Ponga el selector POWER en PLAYER.
(2) Gire STANDBY hacia arriba.
(3) Manteniendo ☐ STOP hacia abajo, ponga el selector POWER en CAMERA.
En el visor aparecerá DEMO OFF.

Para entrar en el modo de demostración

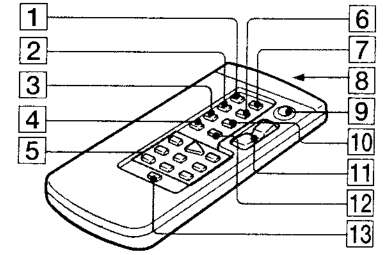
(1) Extraiga el cassette y ponga el selector POWER en PLAYER.
(2) Gire STANDBY hacia arriba.
(3) Manteniendo ▷ PLAY hacia abajo, ponga el selector POWER en CAMERA. La demostración se iniciará.

Si inserta un cassette, el modo de demostración se parará. Tenga en cuenta que una vez que haya pasado al modo de demostración, éste se mantendrá mientras la pila de litio esté en su lugar. Por lo tanto, la demostración se iniciará automáticamente 10 minutos después cada vez que ponga el selector POWER en CAMERA, y después de que expulse el cassette.

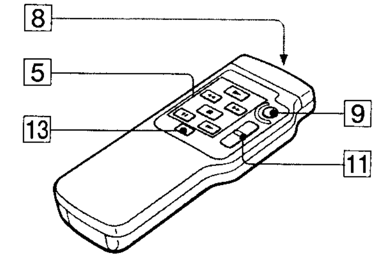
Remote Commander

The buttons that have the same name on the Remote Commander as on the camcorder function identically.

RMT-716



RMT-708



1 **COUNTER RESET button (CCD-TR760E/TR810E only)** (p.15, 54, 60)

2 **TIME CODE WRITE button (CCD-TR760E/TR810E only)** (p.66)

3 **INDEX MARK (CCD-TR760E/TR810E only)** (p.62)

4 **DATE SEARCH button (CCD-TR760E/TR810E only)** (p.58)

5 **Tape transport buttons** (p.23)

6 **DATA CODE button (CCD-TR760E/TR810E only)** (p.26)

7 **ZERO MEM button (CCD-TR760E/TR810E only)** (p.54, 60)

8 **Transmitter**
Point toward the remote sensor to control the camcorder after turning on the camcorder.

9 **START/STOP button** (p.13)

10 **INDEX ERASE (CCD-TR760E/TR810E only)** (p.65)

11 **Power zoom button** (p.16)

12 **INDEX SEARCH button (CCD-TR760E/TR810E only)** (p.63, 64)

13 **DISPLAY button** (p.25)

Telemando

Las teclas del telemando con el mismo nombre que las de la videocámara poseen idéntica función.

1 **Tecla de puesta a cero del contador (COUNTER RESET) (CCD-TR760E/TR810E solamente)** (pág.15, 54, 60)

2 **Tecla de escritura del código de tiempo (TIME CODE WRITE) (CCD-TR760E/TR810E solamente)** (pág.66)

3 **Tecla de marcación de señales de índice (INDEX MARK) (CCD-TR760E/TR810E solamente)** (pág.62)

4 **Teclas de búsqueda de la fecha (DATE SEARCH) (CCD-TR760E/TR810E solamente)** (pág.58)

5 **Teclas de transporte de la cinta** (pág.23)

6 **Tecla de código de datos (DATA CODE) (CCD-TR760E/TR810E solamente)** (pág.26)

7 **Tecla de memorización de cero (ZERO MEM) (CCD-TR760E/TR810E solamente)** (pág.54, 60)

8 **Transmisor**
Para controlar la videocámara con el telemando, conecte la alimentación de la videocámara y apunte este transmisor hacia el sensor remoto.

9 **Tecla de inicio/parada (START/STOP)** (pág.13)

10 **Tecla de borrado de señales de índice (INDEX ERASE) (CCD-TR760E/TR810E solamente)** (pág.65)

11 **Tecla del zoom motorizado** (pág.16)

12 **Tecla de búsqueda con señales de índice (INDEX SEARCH) (CCD-TR760E/TR810E solamente)** (pág.63, 64)

13 **Tecla de visualización (DISPLAY)** (pág.25)

Identifying the parts

To prepare the Remote Commander

To use the Remote Commander, you must insert two size R6 (AA) batteries. Use the supplied size R6 (AA) batteries.

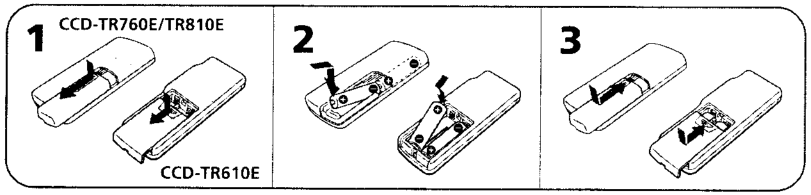
(1) Remove the battery cover from the Remote Commander.
(2) Insert both of the size R6 (AA) batteries with correct polarity.
(3) Put the battery cover back onto the Remote Commander.

Identificación de las partes

Preparación del telemando

Para utilizar el telemando, deberá colocar dos pilas R6 (tamaño AA). Utilice las pilas R6 (tamaño AA) suministradas.

(1) Quite la tapa del compartimiento de las pilas del telemando.
(2) Inserte las dos pilas R6 (tamaño AA) con la polaridad correcta.
(3) Cierre la tapa del compartimiento.



Note on battery life
The batteries for the Remote Commander last about 6 months under normal operation. When the batteries become weak or dead, the Remote Commander does not work.

To avoid damage from possible battery leakage
Remove the batteries when you will not use the Remote Commander for a long time.

To use the Remote Commander

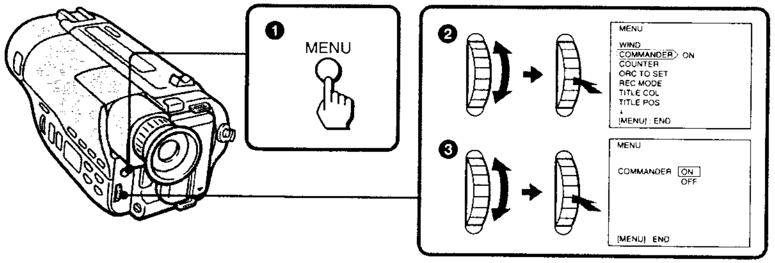
Make sure that the COMMANDER is set to ON in the menu system on the camcorder.

Nota sobre la duración de las pilas
Las pilas en el telemando durarán unos 6 meses en condiciones normales de funcionamiento. Cuando las pilas se debiliten o agoten, el telemando no funcionará.

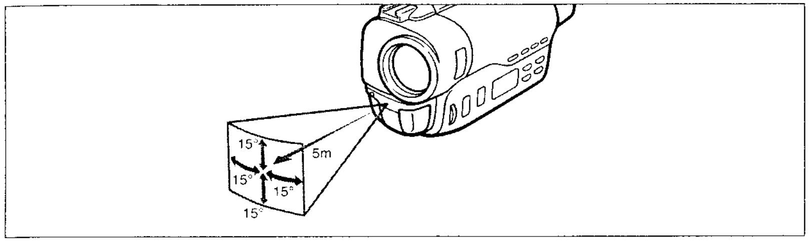
Para evitar el daño que podría causar el derrame del electrólito de las pilas
Cuando no vaya a utilizar el telemando durante mucho tiempo, extraiga las pilas.

Para emplear el telemando

Cerciórese de ajustar el modo de COMMANDER a ON en el sistema del menú de la videocámara.



Remote control direction



Notes on the Remote Commander

- Keep the remote sensor away from strong light sources such as direct sunlight or illumination. Otherwise, the remote control may not be effective.
- Be sure that there is no obstacle between the remote sensor on the camcorder and the Remote Commander.
- This camcorder works in commander mode VTR 2. The commander modes (1, 2 and 3) are used to distinguish this camcorder from other Sony VCRs to avoid remote control misoperation. If you use another Sony VCR in commander mode VTR 2, we recommend you change the commander mode or cover the remote sensor of the VCR with black paper.

Attaching the shoulder strap

Attach the supplied shoulder strap to the hooks for the shoulder strap .

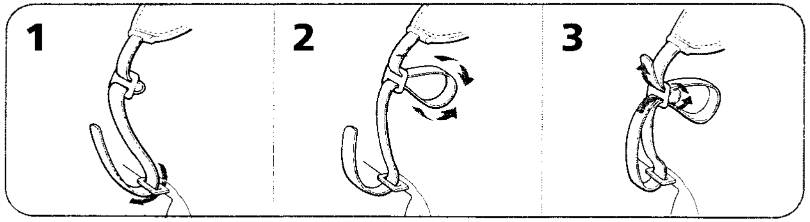
Área controlable mediante el telemando

Notas sobre el telemando

- Mantenga el sensor remoto alejado de luces intensas, como la directa del sol u otras de iluminación intensa. De lo contrario, el telemando no funcionará adecuadamente.
- Asegúrese de que no haya ningún obstáculo entre el telemando y el sensor remoto de la videocámara.
- Esta videocámara funciona con señales del modo de mando VTR 2. El modo de mando (1, 2 y 3) se utiliza para distinguir esta videocámara de otras videograbadoras Sony para evitar una operación errónea. Si utiliza otra videograbadora Sony en el modo de mando VTR 2, se recomienda cambiarlo o cubrir el sensor remoto de la videograbadora con un papel negro.

Fijación de la bandolera

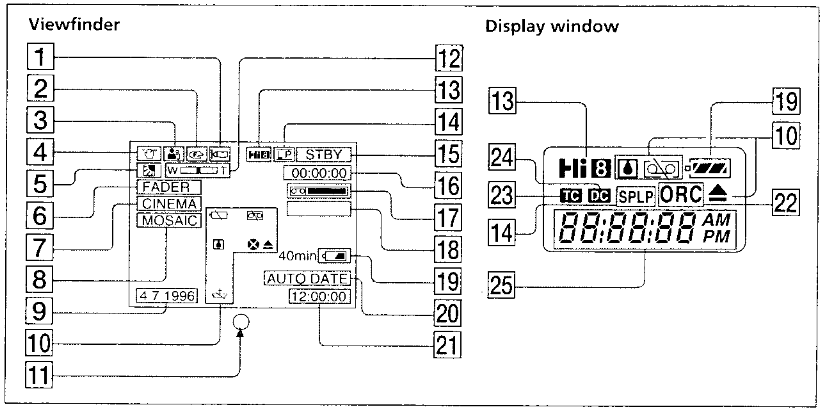
Fije la bandolera suministrada a los ganchos para la misma.



English

Identifying the parts

In the viewfinder



1 **WIND indicator** (p.32)

2 **Manual focusing** (p.41)

3 **PROGRAM AE indicator** (p.42)

4 **SteadyShot indicator (CCD-TR610E/TR810E only)** (p.47)

5 **Backlight indicator** (p.44)

6 **FADER indicator** (p.34)

7 **Wide mode indicator** (p.36)

8 **Picture effect indicator** (p.38)

9 **Data Code indicator (CCD-TR760E/TR810E only)** (p.26)

10 **Warning indicators** (p.106)

11 **Recording lamp/Battery lamp** (p.13)

12 **Exposure indicator/Zoom indicator** (p.16, 45)

13 **Playing back or recording in Hi8 format (CCD-TR760E/TR810E only)** (p.73)

14 **Lights up when recording or playing back a tape recorded in LP/SP mode** (p.74)

15 **Tape transport mode** (p.23)

16 **Tape counter** (p.31)
RC time code indicator (p.66) **(CCD-TR760E/TR810E only)**

17 **Remaining tape indicator**

→ → → 5min → 0min

18 **Date search/Date scan indicator (CCD-TR760E/TR810E only)** (p.58)**/TIME CODE WRITE indicator (CCD-TR760E/TR810E only)** (p.66)**/ZERO MEM indicator (CCD-TR760E/TR810E only)** (p.54, 60)**/Index serach/Index scan/Index mark/Index erase indicator (CCD-TR760E/TR810E only)** (p.62, 63, 64, 65)

19 **Remaining battery indicator** (p.76)

→ → → →

20 **AUTO DATE indicator (CCD-TR610E only)**

21 **Date or Time indicator** (p.72)

22 **ORC indicator** (p.57)

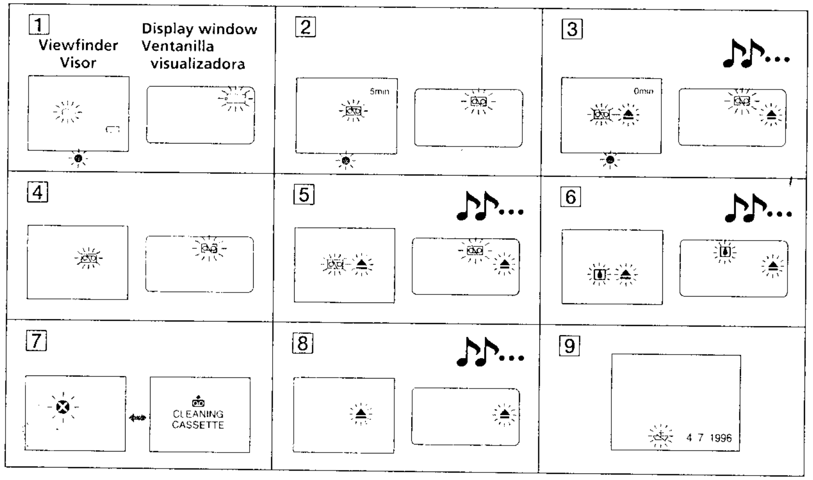
23 **Time code indicator (CCD-TR760E/TR810E only)**

24 **Data code indicator (CCD-TR760E/TR810E only)** (p.26)

25 **Date or Time indicator** (p.72)**/Tape counter** (p.31)
RC Time Code indicator (CCD-TR760E/TR810E ***only)*** (p.66)

Warning indicators

If indicators flash in the viewfinder or in the display window, check the following:
♪: you can hear the beep sound when the BEEP is set to ON.



1 **The battery is weak or dead.**
Slow flashing: The battery is weak.
Fast flashing: The battery is dead.

2 **The tape is near the end.**
The flashing is slow.

3 **The tape has run out.**
The flashing becomes rapid.

4 **No tape has been inserted.**

5 **The tab on the tape is out (red).**

6 **Moisture condensation has occurred.** (p.80)

7 **The video heads may be contaminated.** (p.81)
This indicator appears only on the viewfinder.

8 **Some other trouble has occurred.**
Disconnect the power source and contact your Sony dealer or local authorized facility.

9 **The lithium battery is weak or is not installed.** (p.70)

Indicadores de advertencia

Si parpadean indicadores en el visor o en la ventanilla visualizadora, verifique los puntos siguientes:
♪: Podrá oír un pitido si ajusta BEEP a ON.

1 **La batería está débil o completamente descargada.**
Parpadeo lento: La batería está débil.
Parpadeo rápido: La batería está descargada.

2 **La cinta está a punto de finalizar.**
El parpadeo es lento.

3 **La cinta ha finalizado.**
El parpadeo es más rápido.

4 **No hay videocassette insertado.**

5 **La lengüeta del videocassette está al descubierto (roja).**

6 **Se ha producido condensación de humedad.** (pág.80)

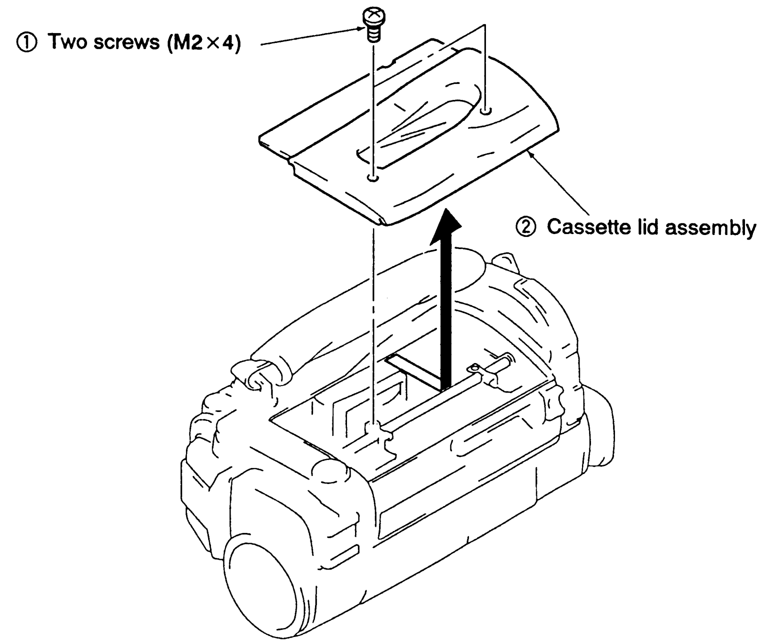
7 **Las cabezas de vídeo pueden estar contaminadas.** (pág.81)
Este indicador aparece sólo en el visor.

8 **Se ha producido algún otro problema.**
Desconecte la fuente de alimentación y póngase en contacto con su proveedor Sony o una estación de servicio autorizada local.

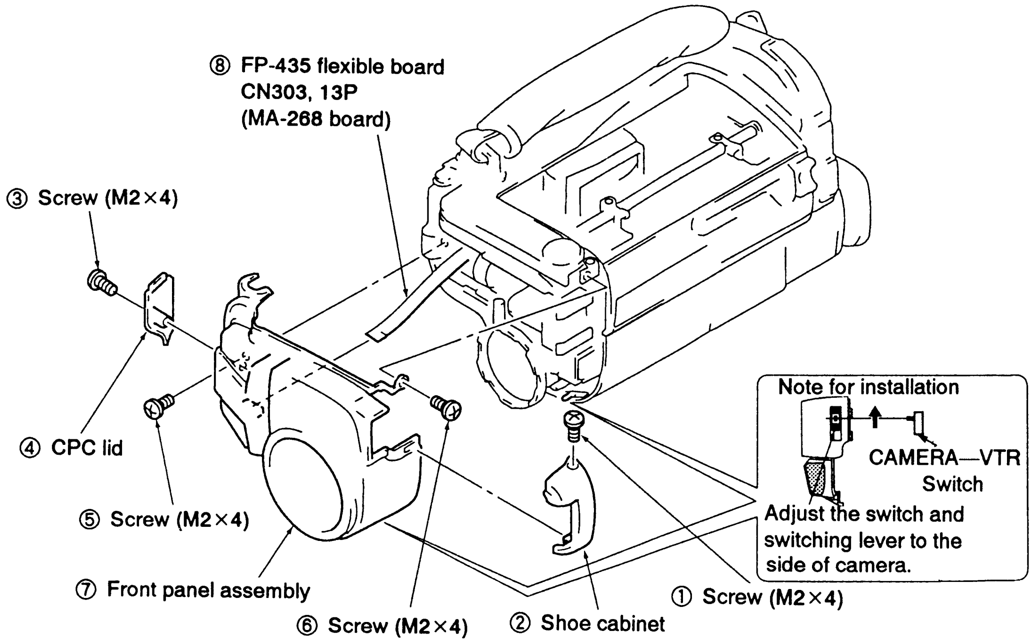
9 **La pila de litio está débil, o no está colocada.** (pág.70)

SECTION 2
DISASSEMBLY

2-1. REMOVAL OF CASSETTE LID ASSEMBLY

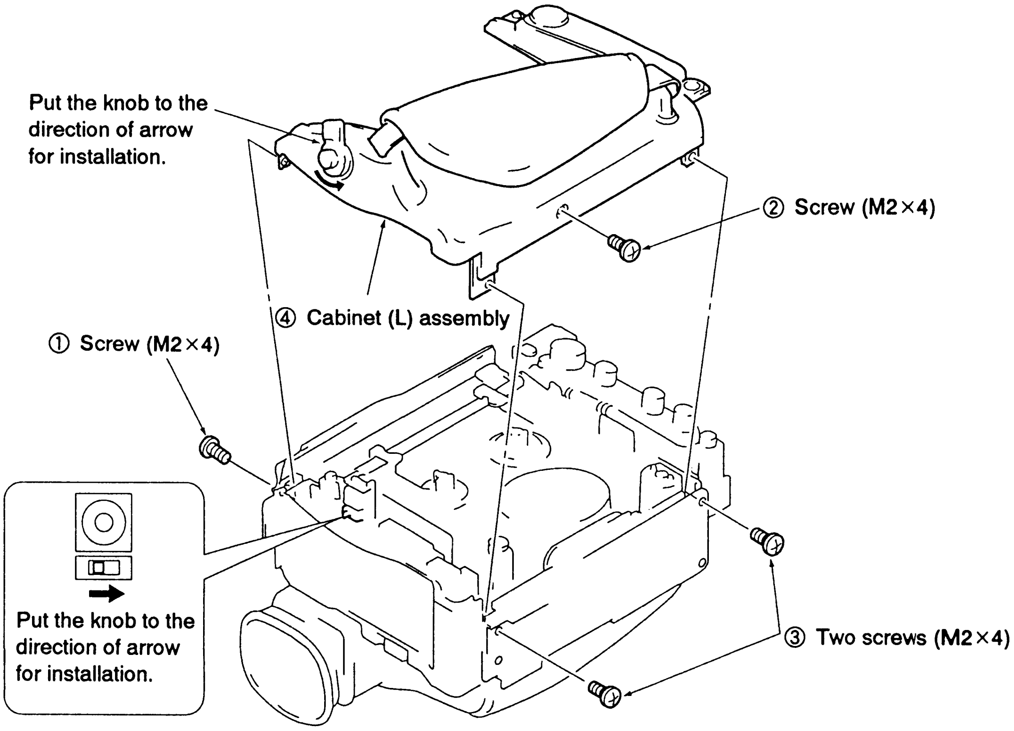

① Two screws (M2×4)
② Cassette lid assembly

2-2. REMOVAL OF FRONT PANEL ASSEMBLY

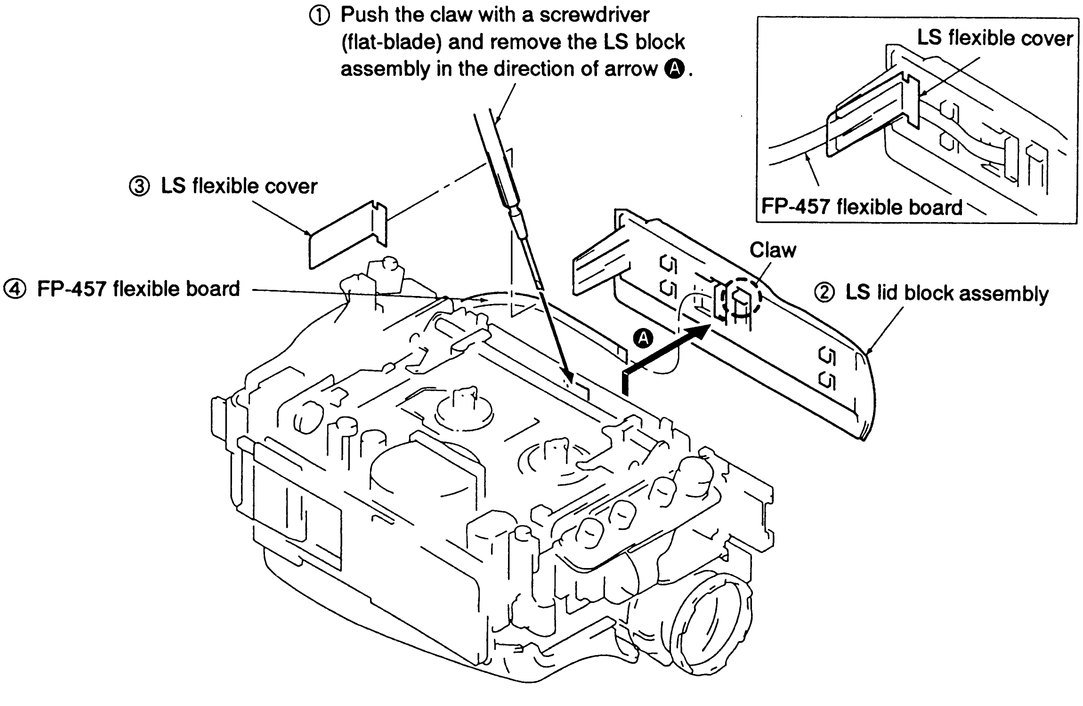

⑧ FP-435 flexible board
CN303, 13P
(MA-268 board)
③ Screw (M2×4)
④ CPC lid
⑤ Screw (M2×4)
⑦ Front panel assembly
⑥ Screw (M2×4)
② Shoe cabinet
① Screw (M2×4)
Note for installation
CAMERA—VTR
Switch

Adjust the switch and switching lever to the side of camera.

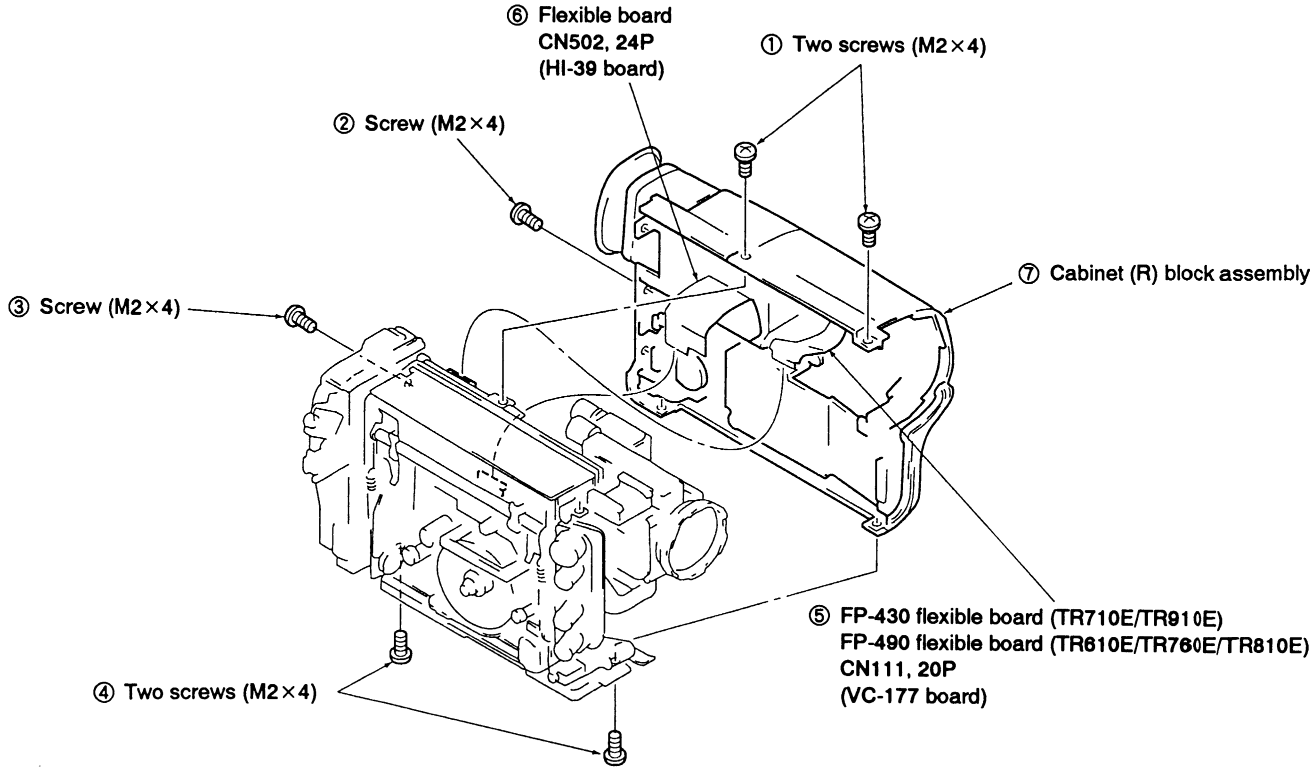
2-3. REMOVAL OF CABINET (L) ASSEMBLY


Put the knob to the direction of arrow for installation.
② Screw (M2×4)
④ Cabinet (L) assembly
① Screw (M2×4)
Put the knob to the direction of arrow for installation.
③ Two screws (M2×4)

2-4. REMOVAL OF LS LID BLOCK ASSEMBLY

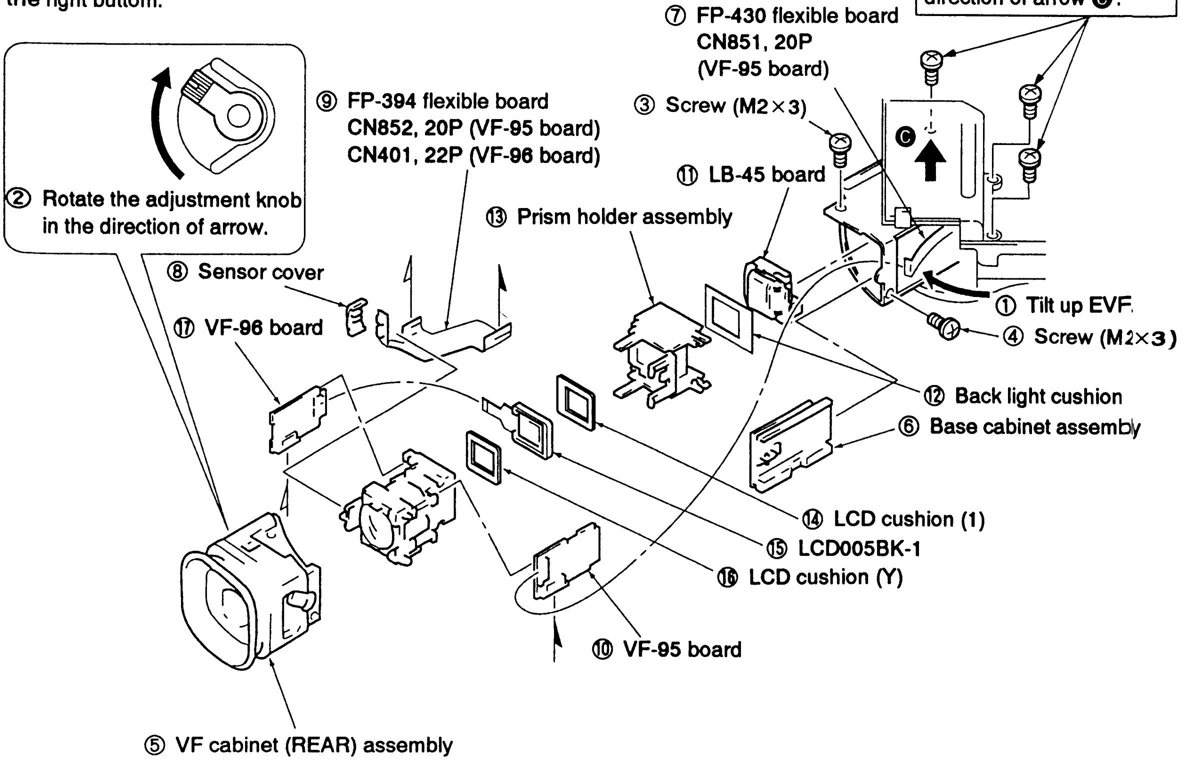

① Push the claw with a screwdriver (flat-blade) and remove the LS block assembly in the direction of arrow Ⓐ.
LS flexible cover
FP-457 flexible board
③ LS flexible cover
Claw
④ FP-457 flexible board
② LS lid block assembly
Ⓐ

2-5. REMOVAL OF CABINET (R) ASSEMBLY


⑥ Flexible board CN502, 24P (HI-39 board)
① Two screws (M2×4)
② Screw (M2×4)
⑦ Cabinet (R) block assembly
③ Screw (M2×4)
⑤ FP-430 flexible board (TR710E/TR910E)
FP-490 flexible board (TR610E/TR760E/TR810E)
CN111, 20P
(VC-177 board)
④ Two screws (M2×4)

2-6. REMOVAL OF EVF BLOCK ASSEMBLY (COLOR) (TR710E/TR910E)

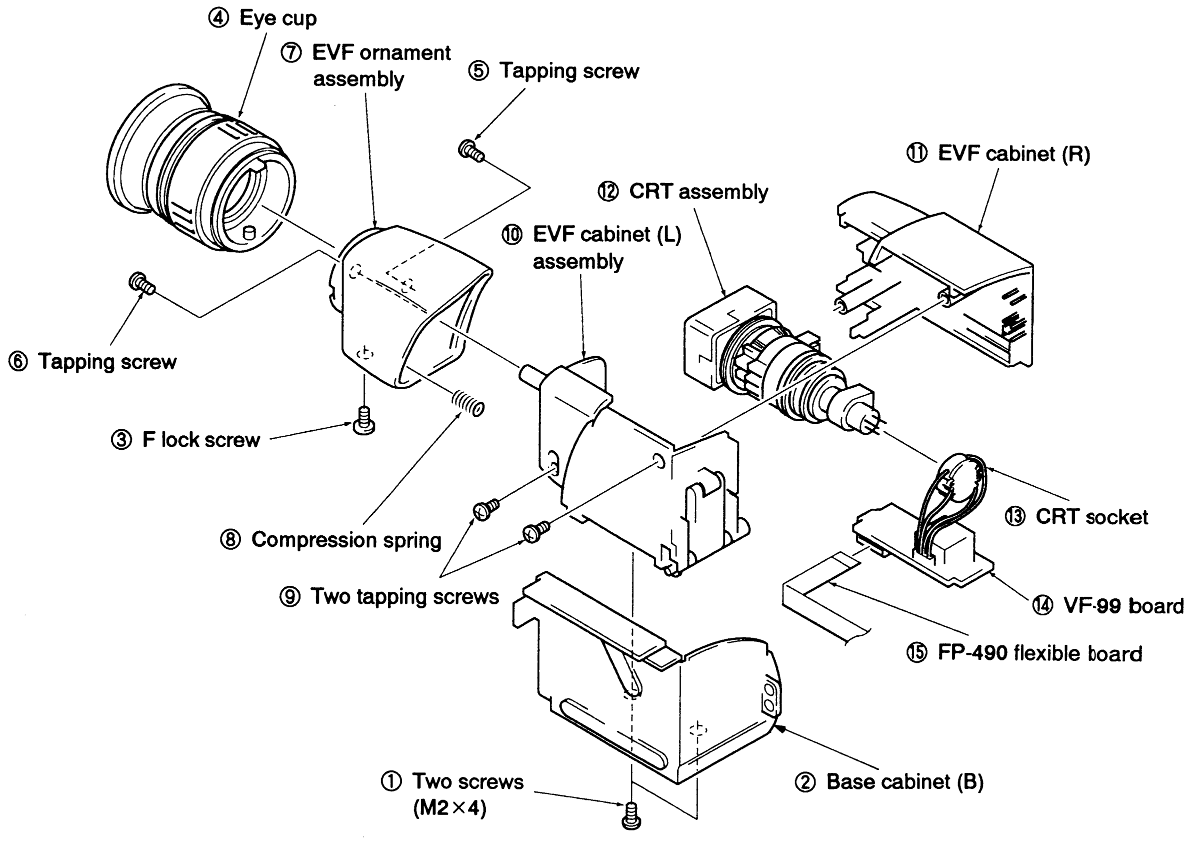
Note: To remove the EVF block assembly without taking apart, remove following the boxed instructions on the right buttom.


Remove the three screws and remove the EVF block assembly in the direction of arrow Ⓒ.

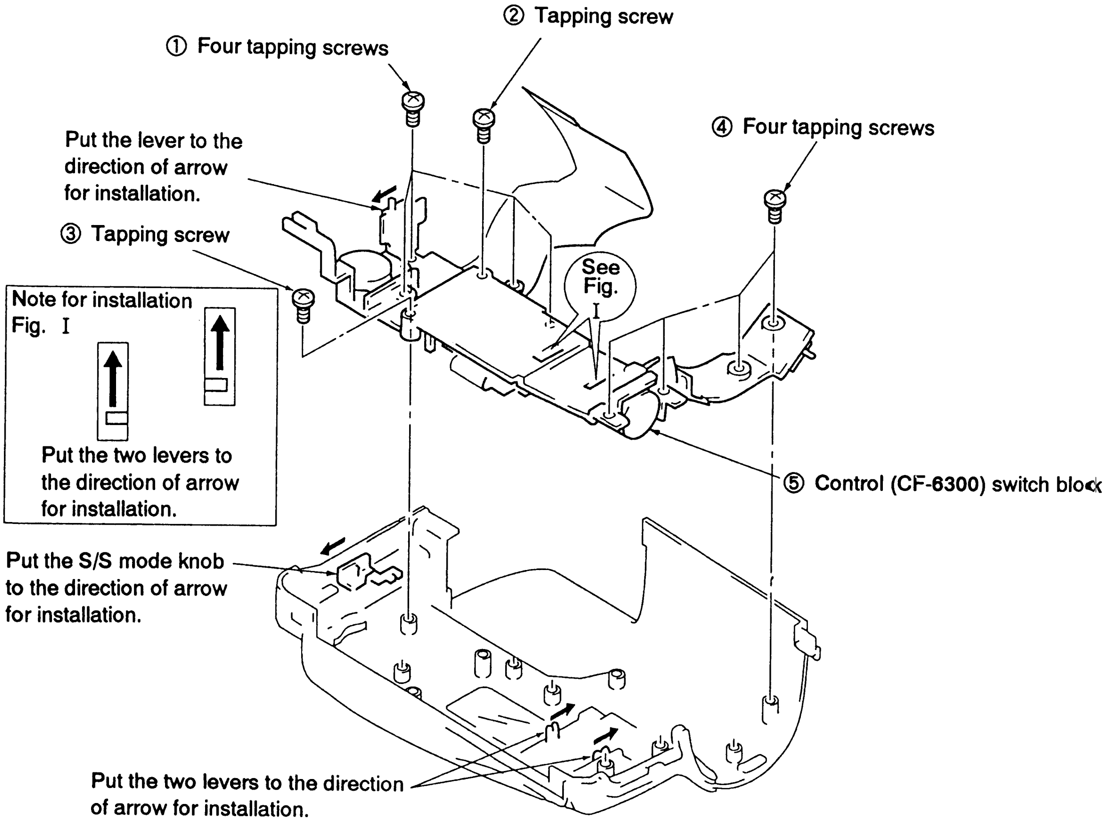
② Rotate the adjustment knob in the direction of arrow.

⑦ FP-430 flexible board CN851, 20P (VF-95 board)
⑨ FP-394 flexible board
CN852, 20P (VF-95 board)
CN401, 22P (VF-96 board)
③ Screw (M2×3)
⑪ LB-45 board
Ⓒ
⑬ Prism holder assembly
⑧ Sensor cover
⑰ VF-96 board
① Tilt up EVF
④ Screw (M2×3)
⑫ Back light cushion
⑥ Base cabinet assembly
⑭ LCD cushion (1)
⑮ LCD005BK-1
⑯ LCD cushion (Y)
⑩ VF-95 board
⑤ VF cabinet (REAR) assembly

2-7. REMOVAL OF EVF BLOCK ASSEMBLY (B/W) (TR610E/TR760E/TR810E)

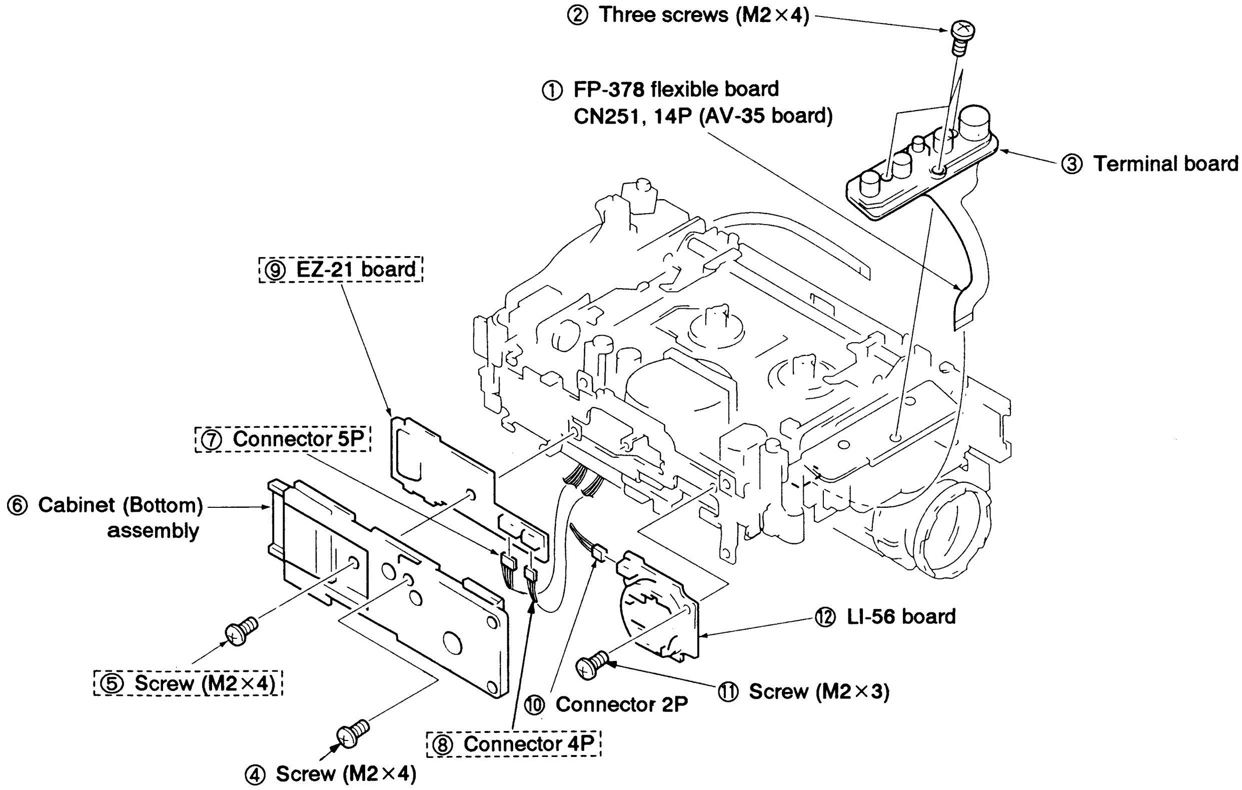

④ Eye cup
⑦ EVF ornament assembly
⑤ Tapping screw
⑪ EVF cabinet (R)
⑫ CRT assembly
⑩ EVF cabinet (L) assembly
⑥ Tapping screw
③ F lock screw
⑧ Compression spring
⑨ Two tapping screws
⑬ CRT socket
⑭ VF-99 board
⑮ FP-490 flexible board
① Two screws (M2×4)
② Base cabinet (B)

2-8. REMOVAL OF CONTROL (CF-6300) SWITCH BLOCK


① Four tapping screws
② Tapping screw
④ Four tapping screws
Put the lever to the direction of arrow for installation.
③ Tapping screw
See Fig. I
Note for installation
Fig. I
Put the two levers to the direction of arrow for installation.
⑤ Control (CF-6300) switch block
Put the S/S mode knob to the direction of arrow for installation.
Put the two levers to the direction of arrow for installation.

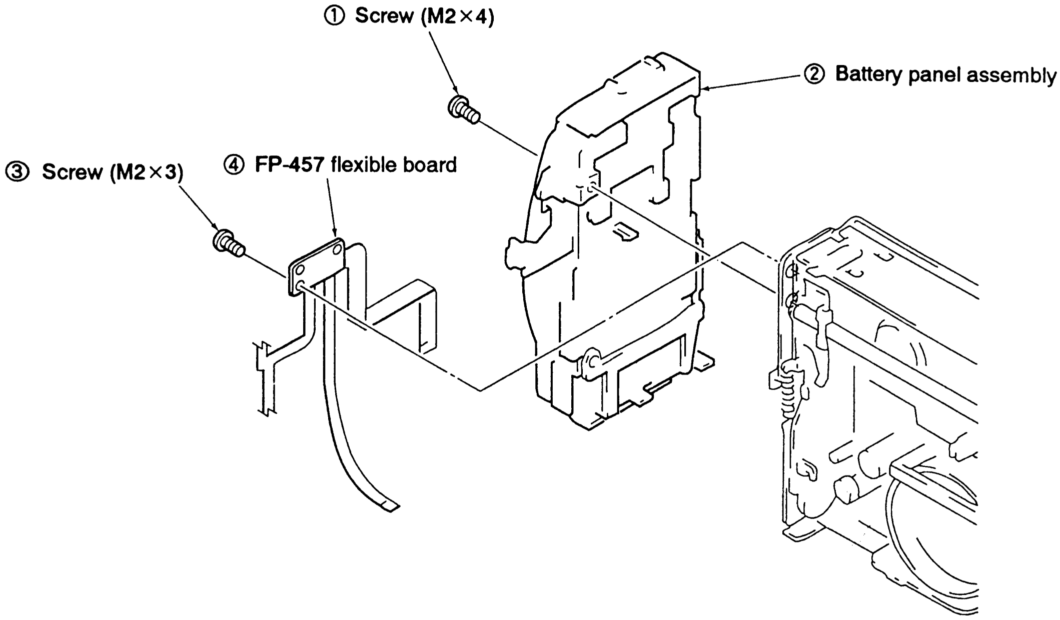
2-9. REMOVAL OF CABINET (BOTTOM) ASSEMBLY, LI-56 BOARD, TERMINAL BOARD AND EZ-21 BOARD

[ ]: TR760E/TR810E only



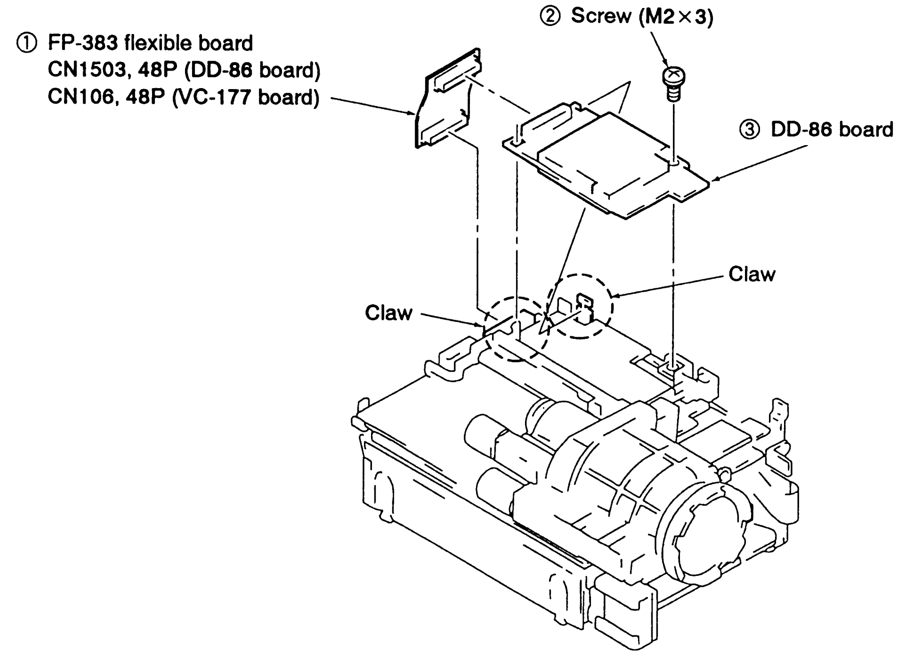
② Three screws (M2×4)
① FP-378 flexible board CN251, 14P (AV-35 board)
③ Terminal board
⑨ EZ-21 board
⑦ Connector 5P
⑥ Cabinet (Bottom) assembly
⑫ LI-56 board
⑤ Screw (M2×4)
⑪ Screw (M2×3)
⑩ Connector 2P
⑧ Connector 4P
④ Screw (M2×4)

2-10. REMOVAL OF BATTERY PANEL ASSEMBLY

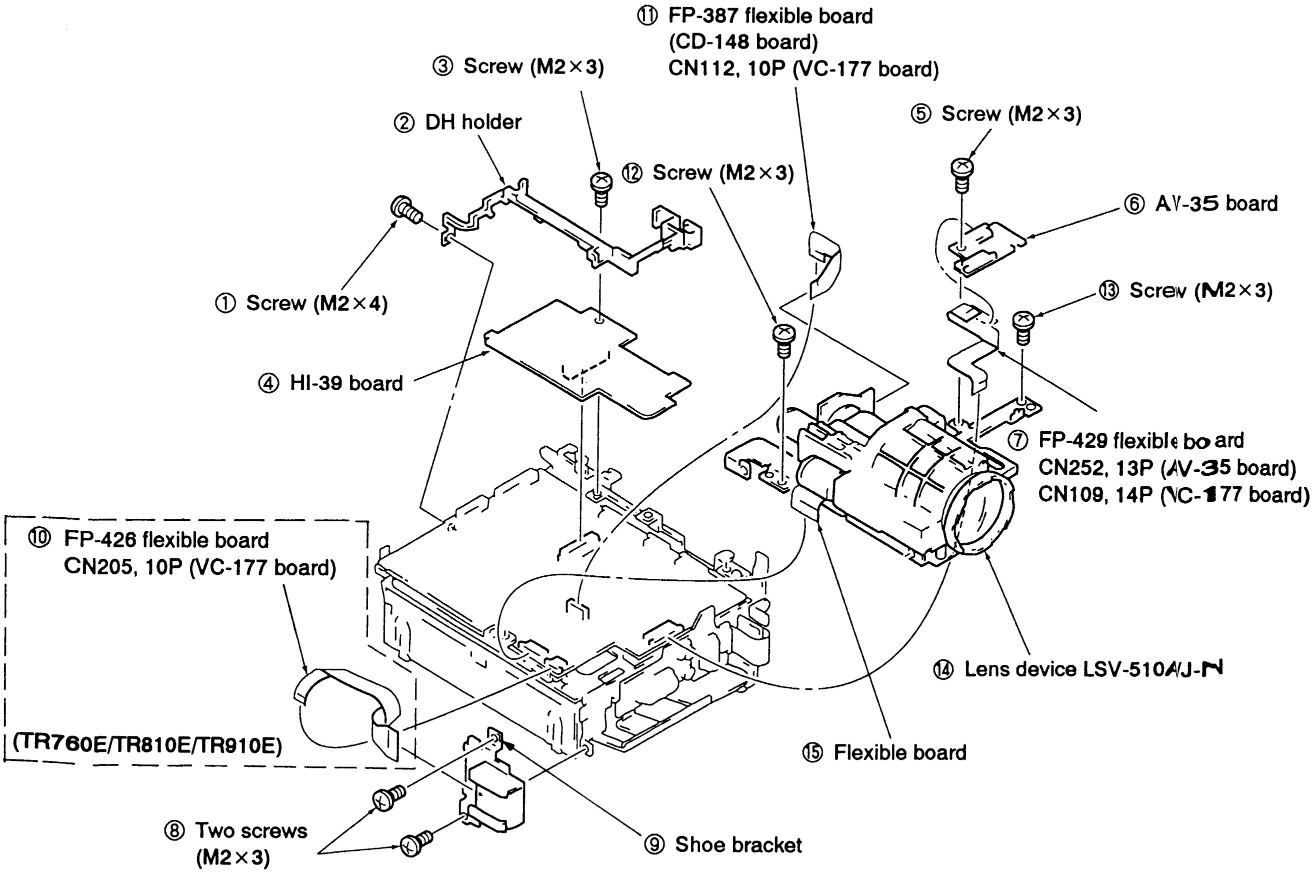


① Screw (M2×4)
② Battery panel assembly
③ Screw (M2×3)
④ FP-457 flexible board

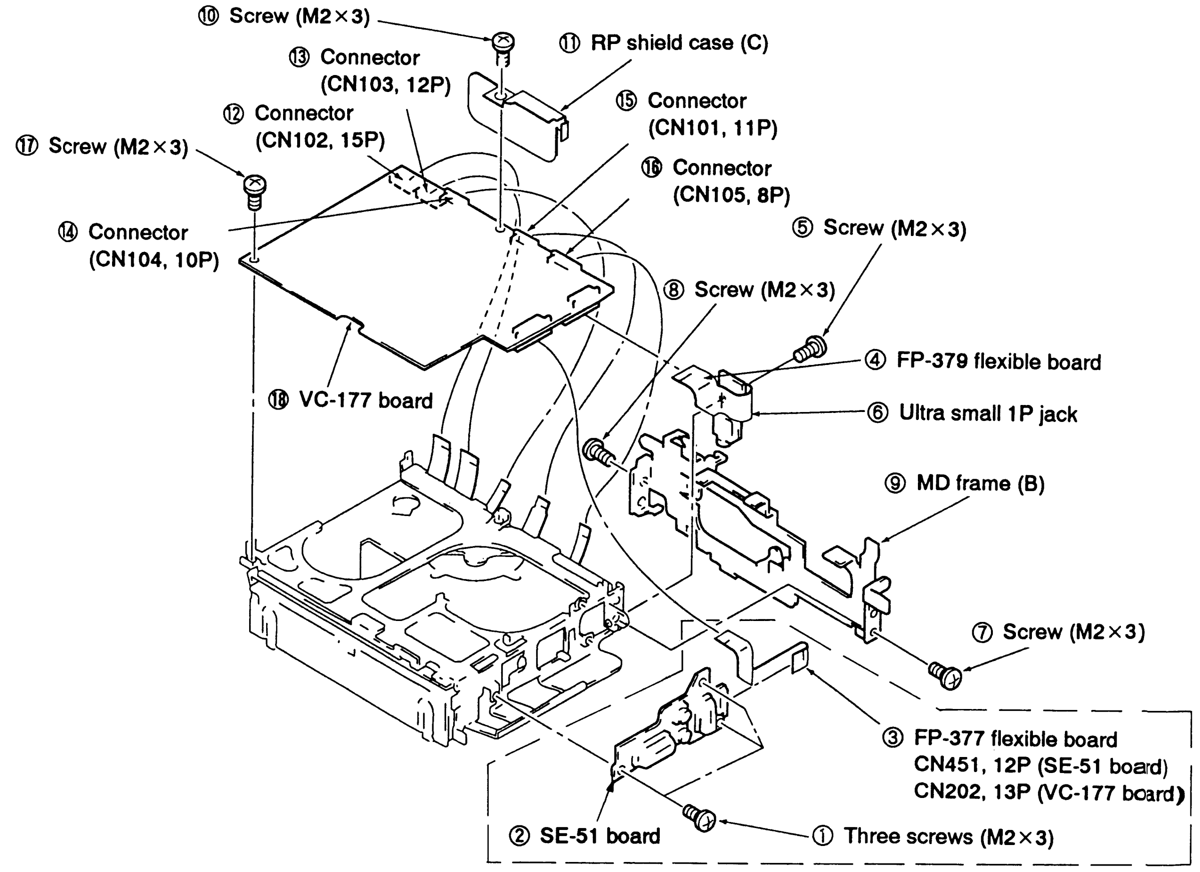
2-11. REMOVAL OF DD-86 BOARD


② Screw (M2×3)
① FP-383 flexible board
CN1503, 48P (DD-86 board)
CN106, 48P (VC-177 board)
③ DD-86 board
Claw
Claw

2-12. REMOVAL OF LENS DEVICE LSV-510A/J-N, HI-39 BOARD AND AV-35 BOARD

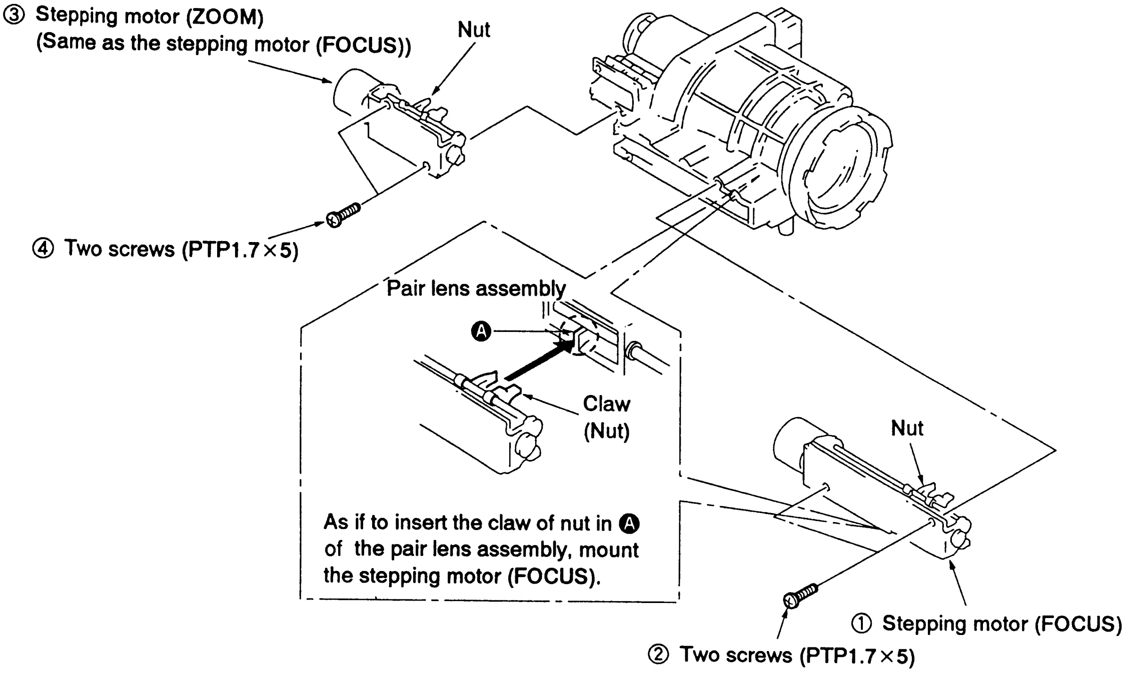

⑪ FP-387 flexible board
(CD-148 board)
CN112, 10P (VC-177 board)
③ Screw (M2×3)
② DH holder
⑤ Screw (M2×3)
⑫ Screw (M2×3)
⑥ AV-35 board
⑬ Screw (M2×3)
① Screw (M2×4)
④ HI-39 board
⑦ FP-429 flexible board
CN252, 13P (AV-35 board)
CN109, 14P (VC-177 board)
⑩ FP-426 flexible board
CN205, 10P (VC-177 board)
(TR760E/TR810E/TR910E)
⑭ Lens device LSV-510A/J-N
⑮ Flexible board
⑧ Two screws
(M2×3)
⑨ Shoe bracket

2-13. REMOVAL OF SE-51 BOARD AND VC-177 BOARD


⑩ Screw (M2×3)
⑪ RP shield case (C)
⑬ Connector (CN103, 12P)
⑫ Connector (CN102, 15P)
⑮ Connector (CN101, 11P)
⑰ Screw (M2×3)
⑯ Connector (CN105, 8P)
⑭ Connector (CN104, 10P)
⑤ Screw (M2×3)
⑧ Screw (M2×3)
④ FP-379 flexible board
⑱ VC-177 board
⑥ Ultra small 1P jack
⑨ MD frame (B)
⑦ Screw (M2×3)
③ FP-377 flexible board
CN451, 12P (SE-51 board)
CN202, 13P (VC-177 board)
② SE-51 board
① Three screws (M2×3)

(EXCEPT TR760E)

2-14. MOUTING OF STEPPING MOTOR (FOCUS/ZOOM)

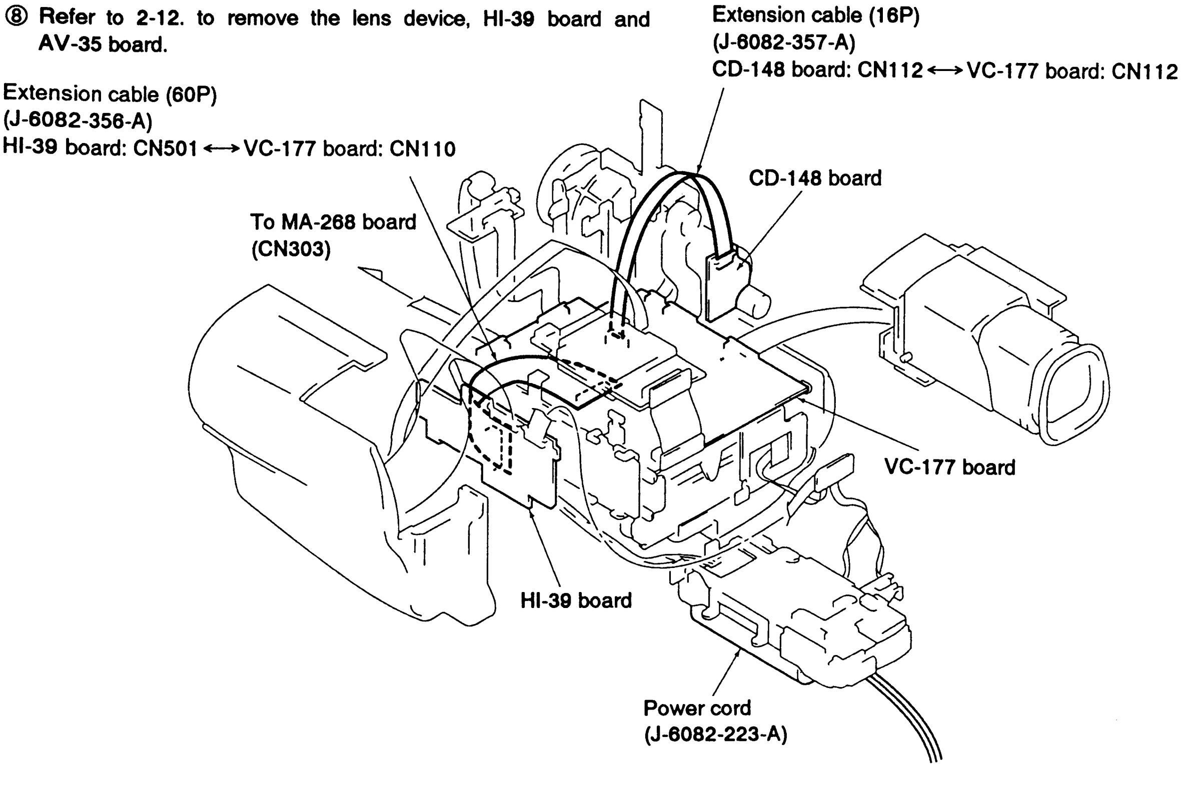

③ Stepping motor (ZOOM)
(Same as the stepping motor (FOCUS))
Nut
④ Two screws (PTP1.7×5)
Pair lens assembly
Ⓐ
Claw
(Nut)
Nut
① Stepping motor (FOCUS)
② Two screws (PTP1.7×5)

As if to insert the claw of nut in Ⓐ of the pair lens assembly, mount the stepping motor (FOCUS).

2-15. SERVICE POSITION

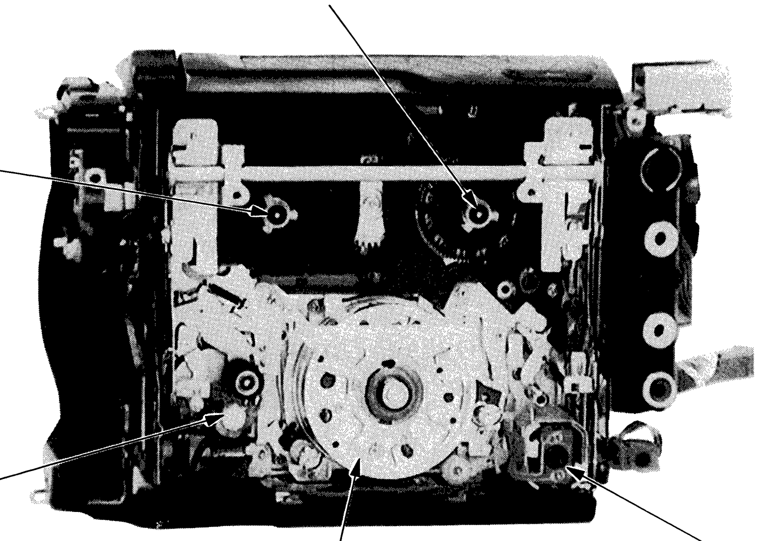
Note: When the following parts are removed, be sure to remember the connection parts becuase those connectors and etc. are needed to connect later on.

① Refer to 2-2. to remove the front panel assembly.
② Refer to 2-3. to remove the cabinet (L) assembly.
③ Refer to 2-5. to remove the cabinet (R) assembly.
④ Refer to 2-6. or 2-7. to remove the EVF block assembly.
⑤ Refer to 2-9. to remove the cabinet (Bottom) assembly.
⑥ Refer to 2-10. to remove the battery panel assembly and FP-457 flexible board.
⑦ Refer to 2-11. to remove the DD-86 board.
⑧ Refer to 2-12. to remove the lens device, HI-39 board and AV-35 board.


Extension cable (16P)
(J-6082-357-A)
CD-148 board: CN112 ←→ VC-177 board: CN112
Extension cable (60P)
(J-6082-356-A)
HI-39 board: CN501 ←→ VC-177 board: CN110
CD-148 board
To MA-268 board
(CN303)
VC-177 board
HI-39 board
Power cord
(J-6082-223-A)

2-16. INTERNAL VIEWS

— Left side —



S reel table assembly
X-3945-397-1

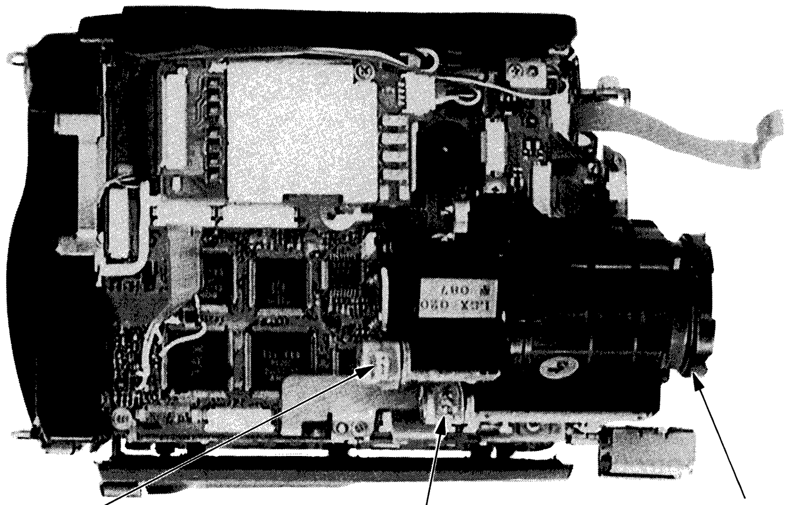
T reel table assembly
X-3945-398-1

M902
DC motor (SCE-0601A)
(Capstan)
8-835-531-01

M901
Drum assembly
A-7048-810-A (DGH-0C4A-R)

M903
DC motor (Loading)
X-3945-401-1

— Right side —

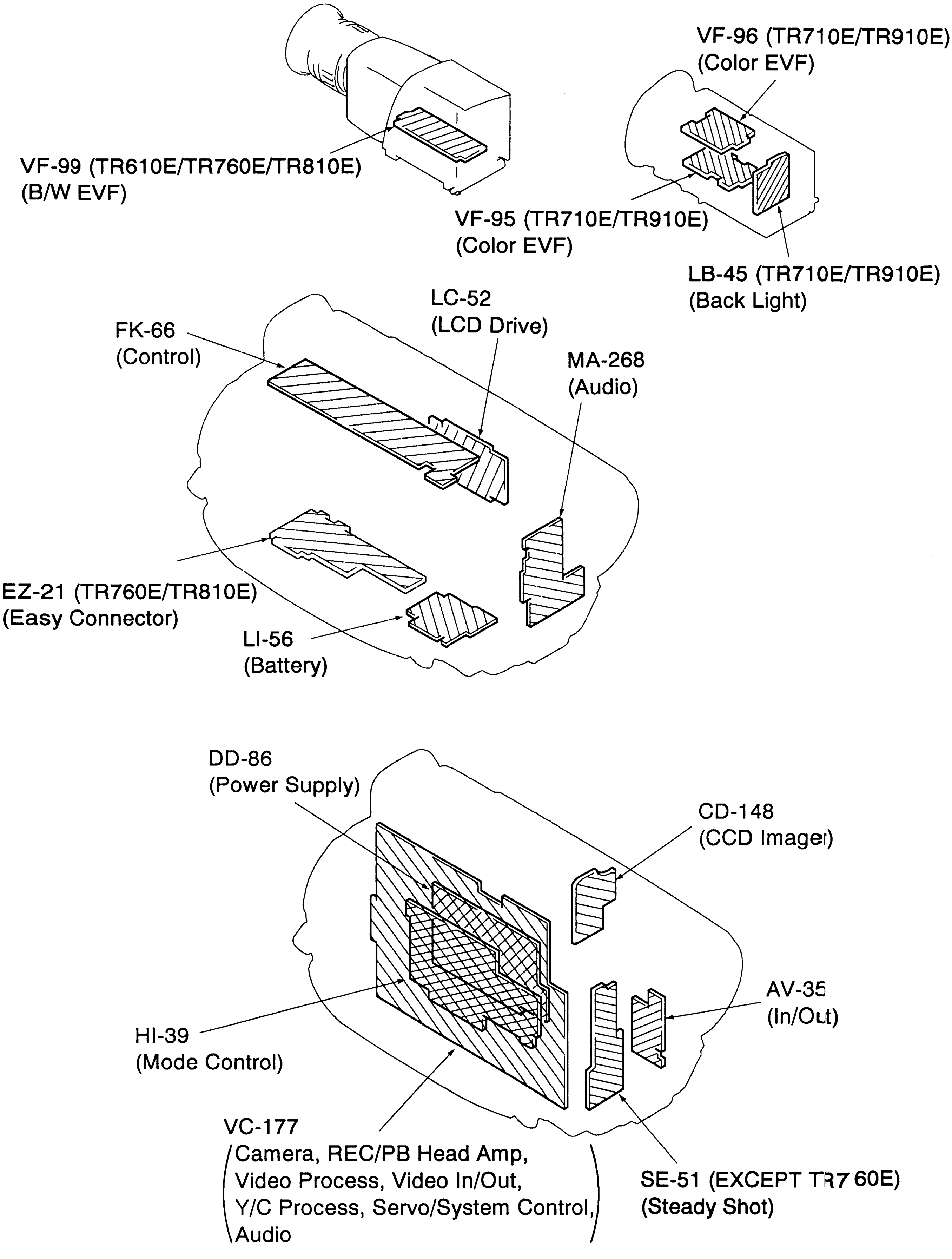


M906
Stepping motor (Zoom)
1-698-759-01

M905
Stepping motor (Focus)
1-698-760-01

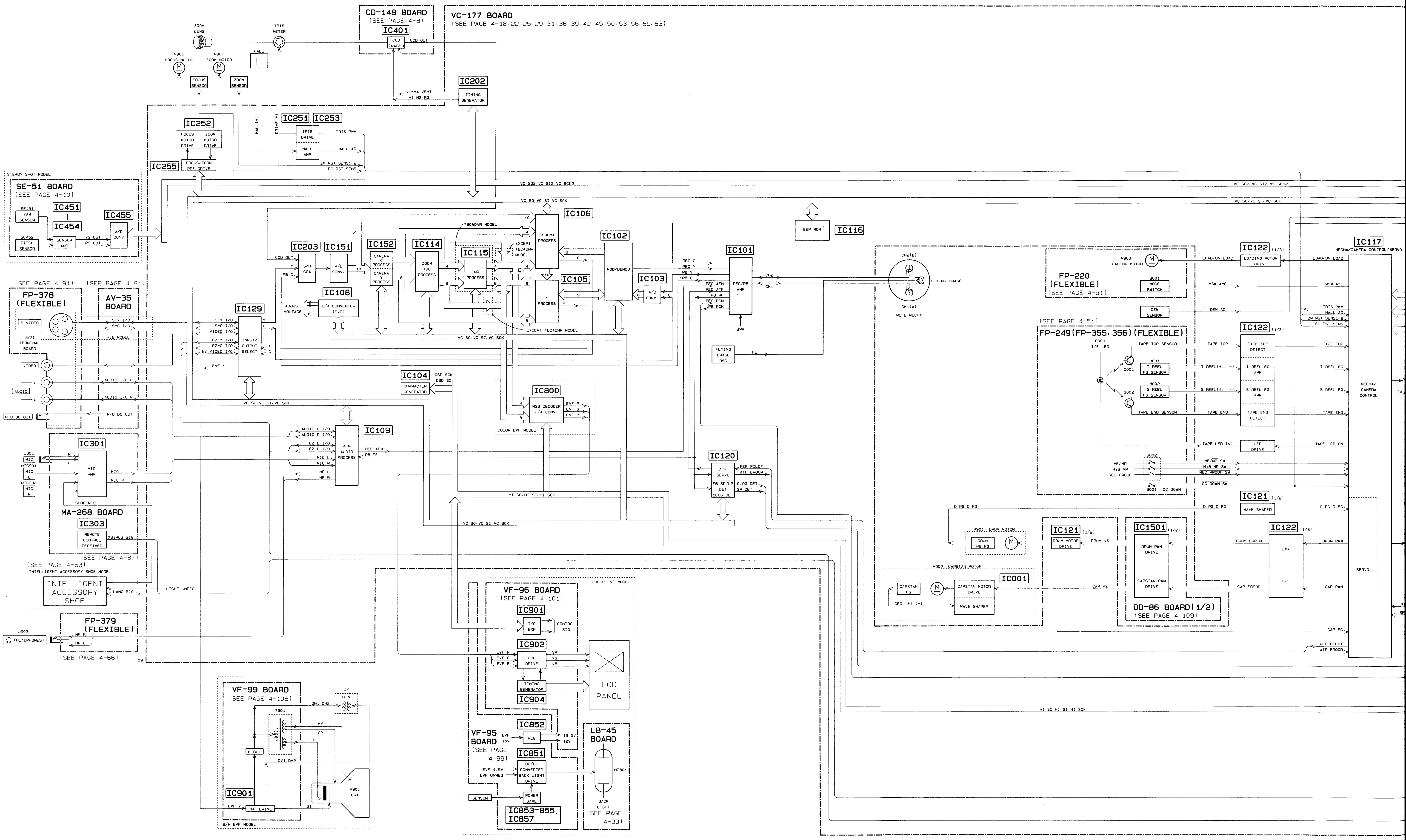
Lens device (LSV-510/J-N)
8-848-710-01

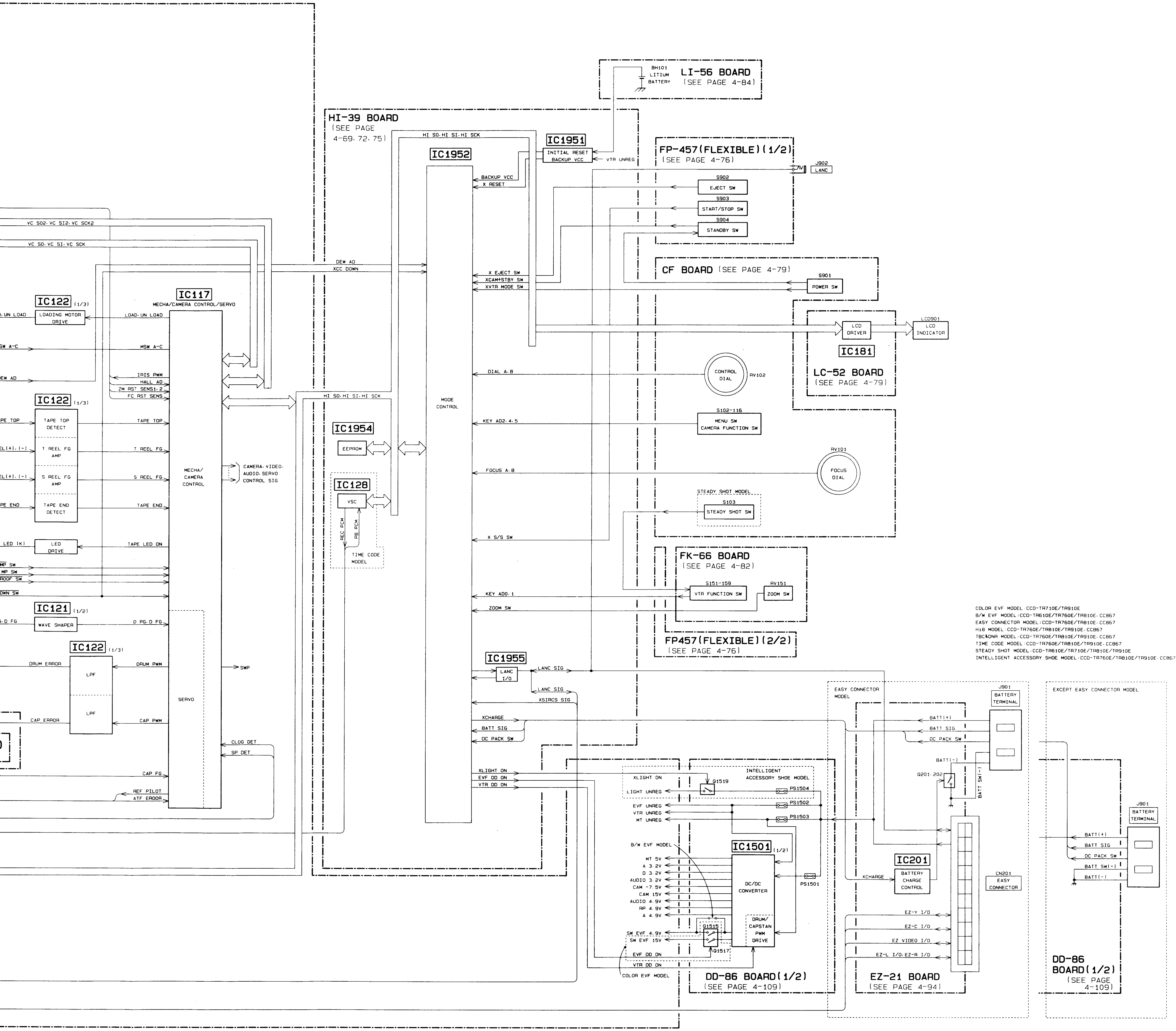
2-17. CIRCUIT BOARDS LOCATION


VF-96 (TR710E/TR910E)
(Color EVF)
VF-99 (TR610E/TR760E/TR810E)
(B/W EVF)
VF-95 (TR710E/TR910E)
(Color EVF)
LB-45 (TR710E/TR910E)
(Back Light)
LC-52
(LCD Drive)
FK-66
(Control)
MA-268
(Audio)
EZ-21 (TR760E/TR810E)
(Easy Connector)
LI-56
(Battery)
DD-86
(Power Supply)
CD-148
(CCD Imager)
AV-35
(In/Out)
HI-39
(Mode Control)
VC-177
(Camera, REC/PB Head Amp,
Video Process, Video In/Out,
Y/C Process, Servo/System Control,
Audio)
SE-51 (EXCEPT TR760E)
(Steady Shot)

SECTION 3
BLOCK DIAGRAMS

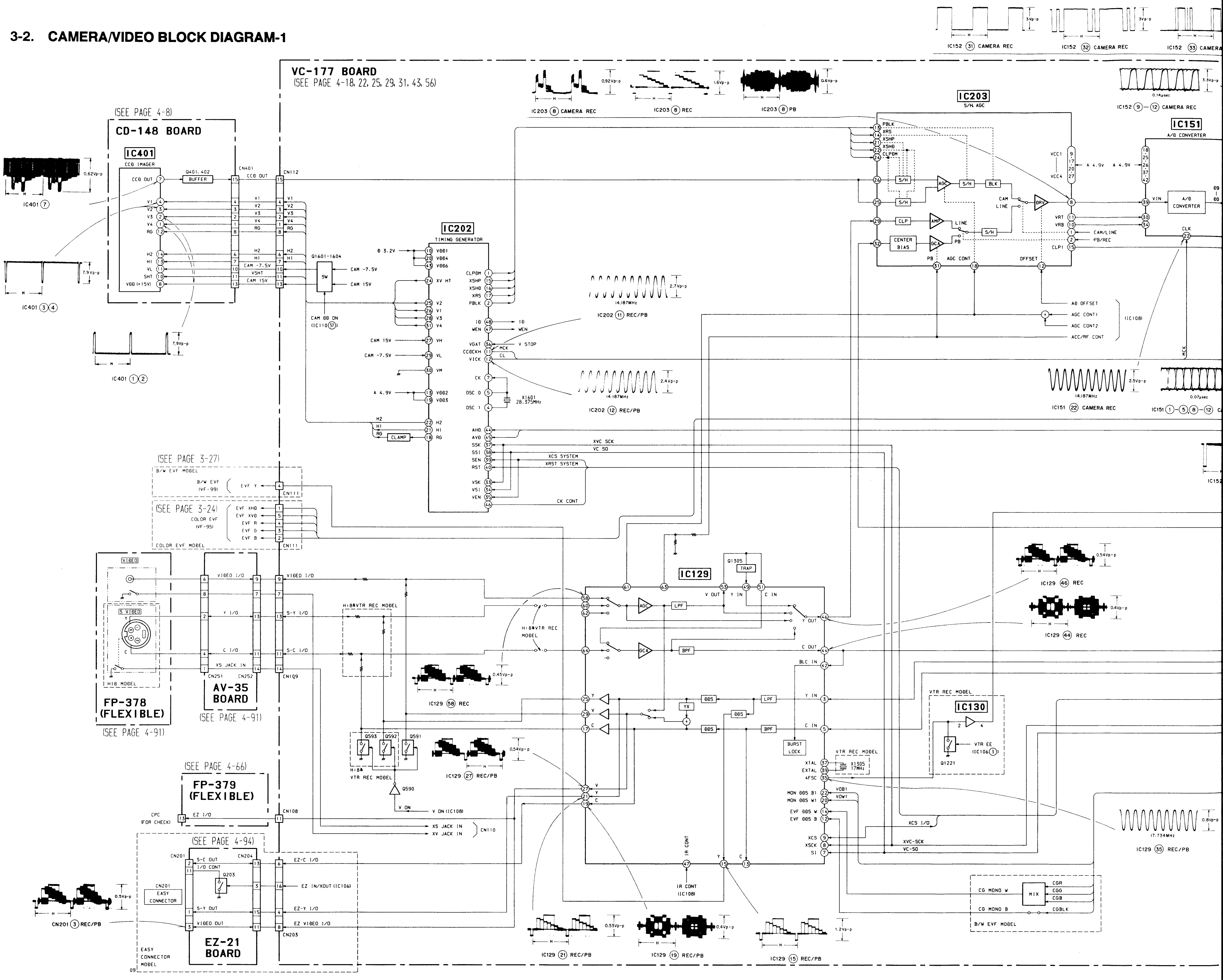
3-1. OVERALL BLOCK DIAGRAM

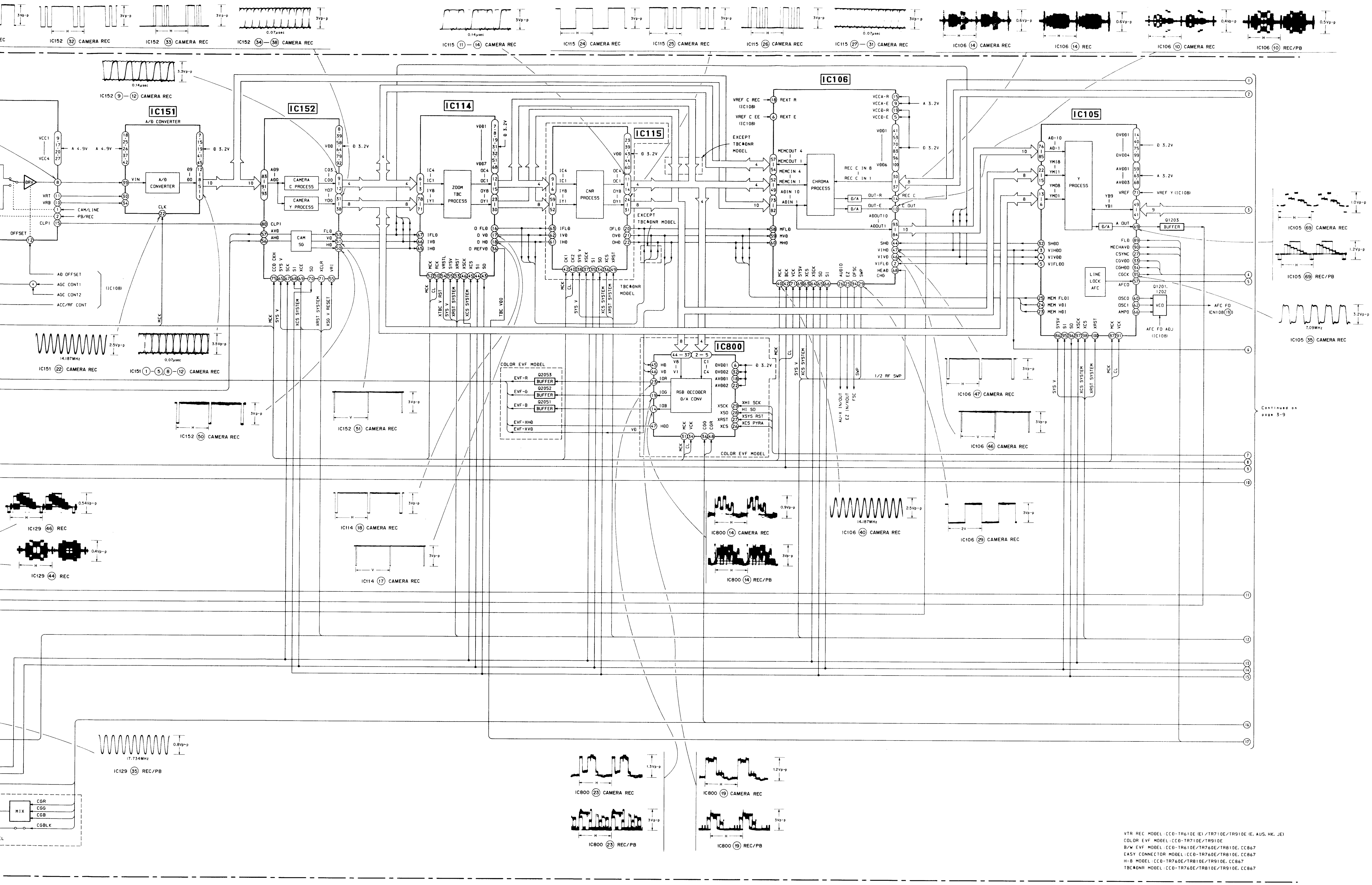

CD-148 BOARD
(SEE PAGE 4-8)
IC401
CCD IMAGER
CCD OUT
VC-177 BOARD
(SEE PAGE 4-18, 22, 25, 29, 31, 36, 39, 42, 45, 50, 53, 56, 59, 63)
ZOOM LENS
IRIS METER
HALL
M905 FOCUS MOTOR
M906 ZOOM MOTOR
FOCUS SENSOR
ZOOM SENSOR
IC202
TIMING GENERATOR
V1-V4 VSHT
H1, H2, RG
IC252
FOCUS MOTOR DRIVE
ZOOM MOTOR DRIVE
IC251, IC253
IRIS DRIVE
HALL AMP
IRIS PWM
HALL AD
ZM RST SENS1, 2
FC RST SENS
IC255
FOCUS/ZOOM PRE DRIVE
STEADY SHOT MODEL
SE-51 BOARD
(SEE PAGE 4-10)
IC451
IC454
IC455
SE451 YAW SENSOR
SE452 PITCH SENSOR
SENSOR AMP
YS OUT
PS OUT
A/D CONV
VC SO2, VC SI2, VC SCK2
VC SO, VC SI, VC SCK
IC203
S/H GCA
IC151
A/D CONV.
IC152
CAMERA C PROCESS
CAMERA Y PROCESS
IC114
ZOOM TBC PROCESS
IC115
CNR PROCESS
TBC&CNR MODEL
EXCEPT TBC&CNR MODEL
IC106
CHROMA PROCESS
IC105
Y PROCESS
IC102
MOD/DEMOD
IC103
A/D CONV.
IC101
REC/PB AMP
REC C
REC Y
PB Y
PB C
REC AFM
REC ATF
PB RF
REC PCM
PB PCM
SWP
CH1
CH2
IC116
EEP ROM
CH2(B)
CH1(A)
FLYING ERASE
MD B MECHA
FLYING ERASE OSC
FE
IC108
D/A CONVERTER (EVR)
ADJUST VOLTAGE
IC129
INPUT/OUTPUT SELECT
S-Y I/O
S-C I/O
VIDEO I/O
EZ-Y I/O
EZ-C I/O
EZ-VIDEO I/O
EVF Y
(SEE PAGE 4-91)
FP-378 (FLEXIBLE)
AV-35 BOARD
S VIDEO
J201 TERMINAL BOARD
VIDEO
AUDIO
L
R
Hi8 MODEL
AUDIO I/O L
AUDIO I/O R
RFU DC OUT
IC104
CHARACTER GENERATOR
OSD SCK
OSD SO
IC800
RGB DECODER D/A CONV.
EVF R
EVF G
EVF B
COLOR EVF MODEL
IC109
AFM AUDIO PROCESS
AUDIO L I/O
AUDIO R I/O
EZ L I/O
EZ R I/O
MIC L
MIC R
HP L
HP R
REC AFM
PB RF
IC301
MIC AMP
J301 MIC
MIC901 MIC L
MIC902 MIC R
SHOE MIC L
MA-268 BOARD
IC303
REMOTE CONTROL RECEIVER
XSIRCS SIG
(SEE PAGE 4-87)
(SEE PAGE 4-63)
INTELLIGENT ACCESSORY SHOE MODEL
INTELLIGENT ACCESSORY SHOE
LIGHT UNREG
LANC SIG
FP-379 (FLEXIBLE)
J903
HEADPHONES
HP R
HP L
(SEE PAGE 4-66)
IC120
ATF SERVO
PB SP/LP DET
CLOG DET
REF PILOT
ATF ERROR
SP DET
HI SO, HI SI, HI SCK
VC SO, VC SI, VC SCK
VF-99 BOARD
(SEE PAGE 4-106)
DY
DH1, DH2
T901
HV
G2
H
H OUT
DV1, DV2
V901 CRT
G1
IC901
EVF Y
CRT DRIVE
B/W EVF MODEL
COLOR EVF MODEL
VF-96 BOARD
(SEE PAGE 4-101)
IC901
I/O EXP
CONTROL SIG
IC902
LCD DRIVE
EVF R
EVF G
EVF B
VR
VG
VB
TIMING GENERATOR
IC904
LCD PANEL
VF-95 BOARD
(SEE PAGE 4-99)
IC852
REG
EVF 15V
13.5V
12V
IC851
DC/DC CONVERTER BACK LIGHT DRIVE
EVF 4.9V
EVF UNREG
SENSOR
POWER SAVE
IC853-855, IC857
LB-45 BOARD
ND801
BACK LIGHT
(SEE PAGE 4-99)
FP-220 (FLEXIBLE)
(SEE PAGE 4-51)
M903 LOADING MOTOR
S001 MODE SWITCH
DEW SENSOR
IC122 (1/3)
LOADING MOTOR DRIVE
LOAD, UN LOAD
MSW A-C
DEW AD
(SEE PAGE 4-51)
FP-249 (FP-355, 356) (FLEXIBLE)
D001 T/E LED
TAPE TOP SENSOR
Q001
H001 T REEL FG SENSOR
H002 S REEL FG SENSOR
Q002
TAPE END SENSOR
IC122 (1/3)
TAPE TOP DETECT
T REEL FG AMP
S REEL FG AMP
TAPE END DETECT
TAPE TOP
T REEL (+), (-)
T REEL FG
S REEL (+), (-)
S REEL FG
TAPE END
TAPE LED (K)
LED DRIVE
TAPE LED ON
S002
ME/MP
Hi8 MP
REC PROOF
ME/MP SW
Hi8 MP SW
REC PROOF SW
S001 CC DOWN
CC DOWN SW
IC121 (1/2)
WAVE SHAPER
D PG, D FG
M901 DRUM MOTOR
DRUM PG FG
IC121 (1/2)
DRUM MOTOR DRIVE
DRUM VS
IC1501 (1/2)
DRUM PWM DRIVE
CAPSTAN PWM DRIVE
IC122 (1/3)
LPF
DRUM ERROR
DRUM PWM
CAP ERROR
CAP PWM
M902 CAPSTAN MOTOR
CAPSTAN FG
IC001
CAPSTAN MOTOR DRIVE
WAVE SHAPER
CFG (+), (-)
CAP VS
DD-86 BOARD (1/2)
(SEE PAGE 4-109)
CAP FG
REF PILOT
ATF ERROR
IC117
MECHA/CAMERA CONTROL/SERVO
MECHA/CAMERA CONTROL
SERVO
IRIS PWM
HALL AD
ZM RST SENS1, 2
FC RST SENS
HI SO, HI SI, HI SCK


VC SO2·VC SI2·VC SCK2
VC SO·VC SI·VC SCK
IC122 (1/3)
LOADING MOTOR DRIVE
LOAD·UN LOAD
MSW A-C
DEW AD
XCC DOWN
IC117
MECHA/CAMERA CONTROL/SERVO
IRIS PWM
HALL AD
ZM RST SENS1, 2
FC RST SENS
TAPE TOP DETECT
TAPE TOP
T REEL FG AMP
T REEL FG
S REEL FG AMP
S REEL FG
TAPE END DETECT
TAPE END
MECHA/ CAMERA CONTROL
CAMERA, VIDEO, AUDIO, SERVO CONTROL SIG
LED DRIVE
LED (K)
TAPE LED ON
MP SW
ROOF SW
OWN SW
IC121 (1/2)
WAVE SHAPER
D PG·D FG
DRUM ERROR
DRUM PWM
LPF
LPF
CAP ERROR
CAP PWM
SERVO
SWP
CLOG DET
SP DET
CAP FG
REF PILOT
ATF EROOR
HI-39 BOARD
(SEE PAGE 4-69, 72, 75)
HI SO·HI SI·HI SCK
IC1952
IC1951
INITIAL RESET
BACKUP VCC
VTR UNREG
BACKUP VCC
X RESET
X EJECT SW
XCAM+STBY SW
XVTR MODE SW
MODE CONTROL
IC1954
EEPROM
IC128
VSC
REC PCM
PB PCM
TIME CODE MODEL
DIAL A·B
KEY AD2·4·5
FOCUS A·B
X S/S SW
KEY AD0·1
ZOOM SW
IC1955
LANC I/O
LANC SIG
LANC SIG
XSIRCS SIG
XCHARGE
BATT SIG
DC PACK SW
XLIGHT ON
EVF DD ON
VTR DD ON
BH101
LITIUM BATTERY
LI-56 BOARD
(SEE PAGE 4-84)
FP-457(FLEXIBLE)(1/2)
(SEE PAGE 4-76)
J902
LANC
S902
EJECT SW
S903
START/STOP SW
S904
STANDBY SW
CF BOARD (SEE PAGE 4-79)
S901
POWER SW
LCD DRIVER
IC181
LC-52 BOARD
(SEE PAGE 4-79)
LCD901
LCD INDICATOR
CONTROL DIAL
RV102
S102-116
MENU SW
CAMERA FUNCTION SW
RV101
FOCUS DIAL
STEADY SHOT MODEL
S103
STEADY SHOT SW
FK-66 BOARD
(SEE PAGE 4-82)
S151-159
VTR FUNCTION SW
RV151
ZOOM SW
FP457(FLEXIBLE)(2/2)
(SEE PAGE 4-76)
XLIGHT ON
LIGHT UNREG
Q1519
INTELLIGENT ACCESSORY SHOE MODEL
PS1504
EVF UNREG
VTR UNREG
MT UNREG
PS1502
PS1503
B/W EVF MODEL
IC1501 (1/2)
MT 5V
A 3.2V
D 3.2V
AUDIO 3.2V
CAM -7.5V
CAM 15V
AUDIO 4.9V
RP 4.9V
A 4.9V
DC/DC CONVERTER
PS1501
DRUM/ CAPSTAN PWM DRIVE
Q1515
Q1517
SW EVF 4.9V
SW EVF 15V
EVF DD ON
VTR DD ON
COLOR EVF MODEL
DD-86 BOARD(1/2)
(SEE PAGE 4-109)
EASY CONNECTOR MODEL
J901
BATTERY TERMINAL
BATT(+)
BATT SIG
DC PACK SW
BATT(-)
BATT SW(-)
Q201, 202
IC201
BATTERY CHARGE CONTROL
XCHARGE
CN201
EASY CONNECTOR
EZ-Y I/O
EZ-C I/O
EZ VIDEO I/O
EZ-L I/O, EZ-R I/O
EZ-21 BOARD
(SEE PAGE 4-94)
EXCEPT EASY CONNECTOR MODEL
J901
BATTERY TERMINAL
BATT(+)
BATT SIG
DC PACK SW
BATT SW(-)
BATT(-)
DD-86 BOARD(1/2)
(SEE PAGE 4-109)

COLOR EVF MODEL·CCD-TR710E/TR910E
B/W EVF MODEL:CCD-TR610E/TR760E/TR810E, CC867
EASY CONNECTOR MODEL:CCD-TR760E/TR810E, CC867
Hi8 MODEL:CCD-TR760E/TR810E/TR910E, CC867
TBC&DNR MODEL:CCD-TR760E/TR810E/TR910E, CC867
TIME CODE MODEL:CCD-TR760E/TR810E/TR910E, CC867
STEADY SHOT MODEL:CCD-TR610E/TR710E/TR810E/TR910E
INTELLIGENT ACCESSORY SHOE MODEL:CCD-TR760E/TR810E/TR910E, CC867

3-2. CAMERA/VIDEO BLOCK DIAGRAM-1

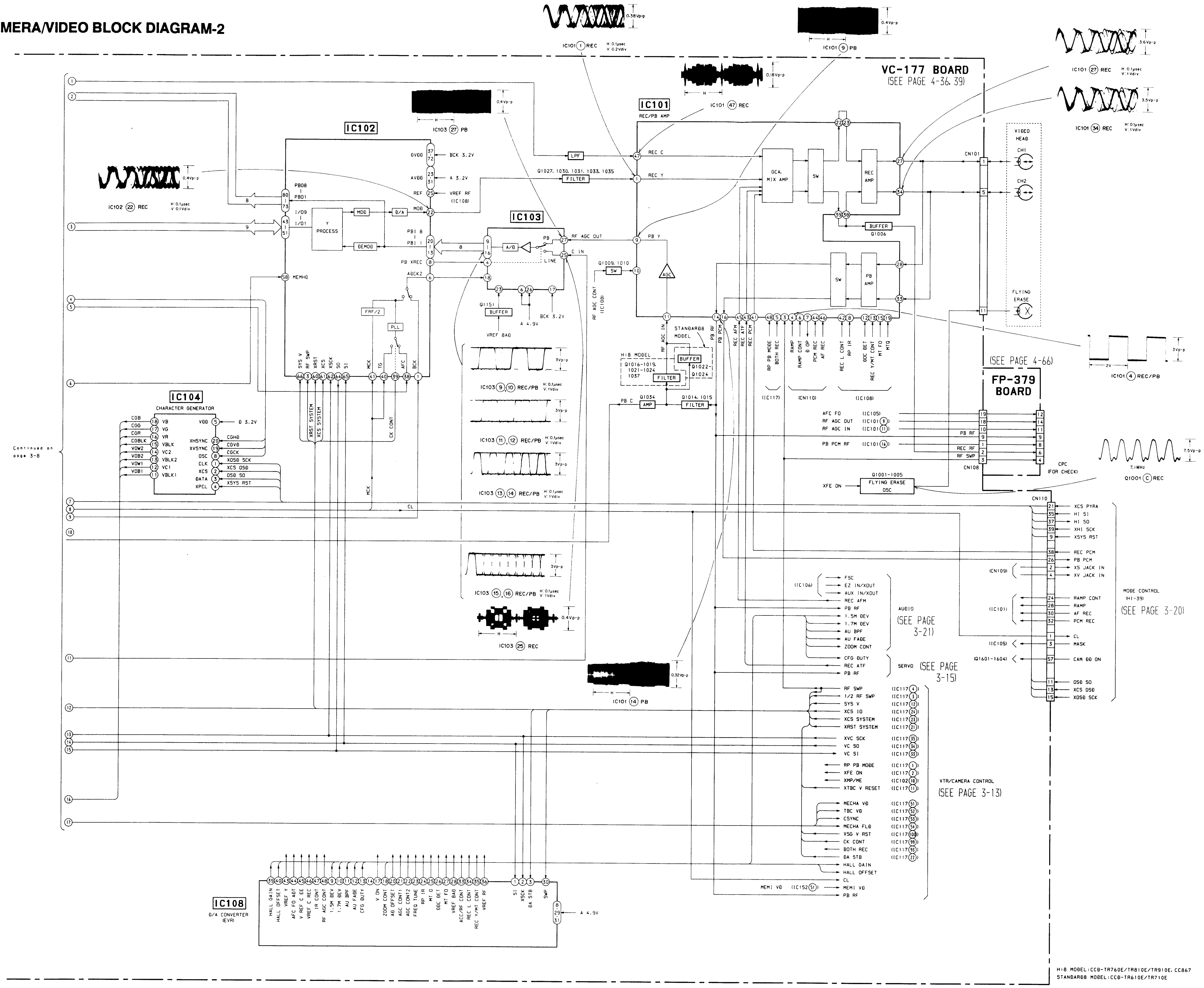

VC-177 BOARD
(SEE PAGE 4-18, 22, 25, 29, 31, 43, 56)
(SEE PAGE 4-8)
CD-148 BOARD
IC401
CCD IMAGER
CCD OUT
Q401, 402
BUFFER
V1
V2
V3
V4
RG
H2
H1
VL
SHT
VDD (+15V)
CN401
CN112
CAM -7.5V
VSHT
CAM 15V
Q1601-1604
SW
CAM 00 ON (IC110 57)
IC401 7
0.62Vp-p
IC401 3 4
7.9Vp-p
IC401 1 2
IC202
TIMING GENERATOR
VDD1
VDD4
VDD6
XV HT
VH
VL
VM
VDD2
VDD3
CLAMP
CLPOB
XSHP
XSHD
XRS
PBLK
ID
WEN
VDAT
CCDCKH
V1CK
CK
OSC 0
OSC 1
X1601 28.575MHz
AHD
AVD
SSK
SSI
SEN
RST
VSK
VSI
VEN
V STOP
MCK
CL
XVC SCK
VC SO
XCS SYSTEM
XRST SYSTEM
CK CONT
IC202 11 REC/PB
2.7Vp-p
14.187MHz
IC202 12 REC/PB
2.4Vp-p
IC203 8 CAMERA REC
0.92Vp-p
IC203 8 REC
1.6Vp-p
IC203 8 PB
0.6Vp-p
IC203
S/H AGC
PBLK
XRS
XSHP
XSHD
CLPDM
S/H
AGC
BLK
DRV
CAM
LINE
CLP
AMP
CENTER BIAS
GCA
PB
AGC CONT
OFFSET
VCC1
VCC4
A 4.9V
VRT
VRB
CAM/LINE
PB/REC
CLP1
AD OFFSET
AGC CONT1
AGC CONT2
ACC/RF CONT
(IC108)
IC151
A/D CONVERTER
VIN
A/D CONVERTER
CLK
MCK
IC152 31 CAMERA REC
IC152 32 CAMERA REC
IC152 33 CAMERA
3Vp-p
IC152 9 - 12 CAMERA REC
3.3Vp-p
0.14μsec
IC151 22 CAMERA REC
2.5Vp-p
IC151 1 - 5, 8 - 12
0.07μsec
(SEE PAGE 3-27)
B/W EVF MODEL
B/W EVF (VF-99)
EVF Y
CN111
(SEE PAGE 3-24)
COLOR EVF (VF-95)
EVF XHD
EVF XVD
EVF R
EVF G
EVF B
COLOR EVF MODEL
VIDEO
S VIDEO
Hi8 MODEL
FP-378 (FLEXIBLE)
(SEE PAGE 4-91)
VIDEO I/O
Y I/O
C I/O
XS JACK IN
CN251
CN252
AV-35 BOARD
(SEE PAGE 4-91)
S-Y I/O
S-C I/O
CN109
Hi8&VTR REC MODEL
Q593
Q592
Q591
Hi8&VTR REC MODEL
Q590
V ON
V ON (IC108)
XS JACK IN
XV JACK IN
CN110
IC129 58 REC
0.45Vp-p
IC129 27 REC/PB
0.54Vp-p
IC129
Q1305
TRAP
V OUT
Y IN
C IN
AGC
LPF
GCA
BPF
Y OUT
C OUT
BLC IN
DDS
YX
BURST LOCK
VTR REC MODEL
X1305 17MHz
XTAL
EXTAL
4FSC
MON DDS B1
MON DDS W1
EVF DDS W
EVF DDS B
VDB1
VDW1
XCS
XSCK
SI
XCS I/O
XVC-SCK
VC-SO
IR CONT
IR CONT (IC108)
IC129 46 REC
0.54Vp-p
IC129 44 REC
0.4Vp-p
VTR REC MODEL
IC130
VTR EE (IC106 1)
Q1221
IC129 35 REC/PB
0.8Vp-p
17.734MHz
CG MONO W
CG MONO B
MIX
CGR
CGG
CGB
CGBLK
B/W EVF MODEL
IC129 21 REC/PB
0.53Vp-p
IC129 19 REC/PB
0.4Vp-p
IC129 15 REC/PB
1.2Vp-p
(SEE PAGE 4-66)
FP-379 (FLEXIBLE)
CPC (FOR CHECK)
EZ I/O
CN108
(SEE PAGE 4-94)
CN201
S-C OUT
I/O CONT
CN204
Q203
CN201 EASY CONNECTOR
S-Y OUT
VIDEO OUT
EZ-21 BOARD
EASY CONNECTOR MODEL
EZ-C I/O
EZ IN/XOUT (IC106)
EZ-Y I/O
EZ VIDEO I/O
CN203
CN201 3 REC/PB
0.5Vp-p
09


IC151
A/D CONVERTER
A/D CONVERTER
IC152
CAMERA C PROCESS
CAMERA Y PROCESS
CAM SG
IC114
ZOOM TBC PROCESS
IC115
CNR PROCESS
EXCEPT TBC&DNR MODEL
TBC&DNR MODEL
IC106
CHROMA PROCESS
REXT R
REXT E
VREF C REC (IC108)
VREF C EE (IC108)
REC C IN B
REC C IN 1
OUT-R
OUT-E
D/A
IC105
Y PROCESS
LINE LOCK AFC
VCO
Q1201, 1202
Q1203 BUFFER
AFC FO ADJ (IC108)
AFC FO (CN108 ⑲)
IC800
RGB DECODER D/A CONV
COLOR EVF MODEL
Q2053 BUFFER
Q2052 BUFFER
Q2051 BUFFER
EVF-R
EVF-G
EVF-B
EVF-XHD
EVF-XVD
MIX
CGR
CGG
CGB
CGBLK
DRV
OFFSET
AD OFFSET
AGC CONT1
AGC CONT2
ACC/RF CONT
(IC108)
CAM/LINE
PB/REC
D 3.2V
A 4.9V
A 3.2V
MCK
SYS V
XCS SYSTEM
XRST SYSTEM
XSG V RESET
XTBC V RST
TBC VDD
1/2 RF SWP
AU-X IN/OUT
EZ IN/XOUT
FSC
IC152 ㉜ CAMERA REC
IC152 ㉝ CAMERA REC
IC152 ㉞—㊳ CAMERA REC
IC152 ⑨—⑫ CAMERA REC
IC151 ㉒ CAMERA REC
IC151 ①—⑤, ⑧—⑫ CAMERA REC
IC152 (50) CAMERA REC
IC152 (51) CAMERA REC
IC115 ⑪—⑭ CAMERA REC
IC115 ㉔ CAMERA REC
IC115 ㉕ CAMERA REC
IC115 ㉖ CAMERA REC
IC115 ㉗—㉛ CAMERA REC
IC106 ⑭ CAMERA REC
IC106 ⑭ REC
IC106 ⑩ CAMERA REC
IC106 ⑩ REC/PB
IC105 (69) CAMERA REC
IC105 (69) REC/PB
IC105 ㉟ CAMERA REC
IC106 ㊼ CAMERA REC
IC106 ㊻ CAMERA REC
IC106 ㊵ CAMERA REC
IC106 ㉙ CAMERA REC
IC114 ⑱ CAMERA REC
IC114 ⑰ CAMERA REC
IC800 ⑭ CAMERA REC
IC800 ⑭ REC/PB
IC800 ㉓ CAMERA REC
IC800 ㉓ REC/PB
IC800 ⑲ CAMERA REC
IC800 ⑲ REC/PB
IC129 ㊻ REC
IC129 ㊹ REC
IC129 ㉟ REC/PB
14.187MHz
17.734MHz
7.09MHz
0.07μsec
0.14μsec
3Vp-p
3.3Vp-p
3.5Vp-p
2.5Vp-p
0.8Vp-p
0.54Vp-p
0.4Vp-p
0.6Vp-p
0.5Vp-p
0.9Vp-p
1.0Vp-p
1.2Vp-p
1.3Vp-p
3.2Vp-p

Continued on page 3-9

VTR REC MODEL:CCD-TR610E (E)/TR710E/TR910E (E, AUS, HK, JE)
COLOR EVF MODEL:CCD-TR710E/TR910E
B/W EVF MODEL:CCD-TR610E/TR760E/TR810E, CC867
EASY CONNECTOR MODEL:CCD-TR760E/TR810E, CC867
Hi8 MODEL:CCD-TR760E/TR810E/TR910E, CC867
TBC&DNR MODEL:CCD-TR760E/TR810E/TR910E, CC867

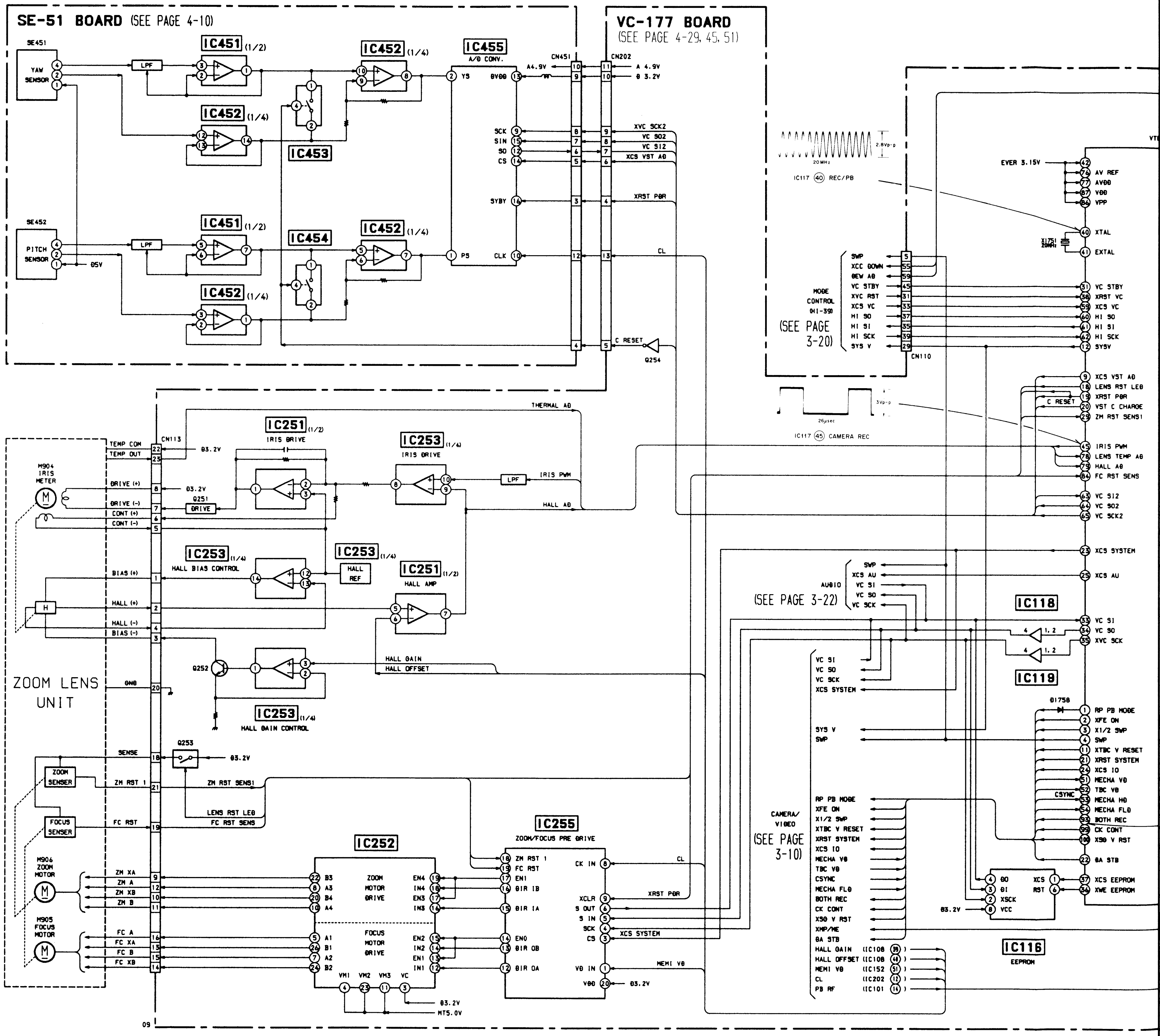
CAMERA/VIDEO BLOCK DIAGRAM-2


IC101 ① REC H:0.1μsec V:0.2Vdiv 0.38Vp-p
IC101 ⑨ PB 0.4Vp-p H
IC101 (47) REC 0.18Vp-p H
IC103 (27) PB 0.4Vp-p H
IC102 (22) REC 0.4Vp-p H:0.1μsec V:0.1Vdiv
IC101 (27) REC H:0.1μsec V:1Vdiv 3.6Vp-p
IC101 (34) REC H:0.1μsec V:1Vdiv 3.5Vp-p
VC-177 BOARD
(SEE PAGE 4-36, 39)
IC102
DVDD 37 72 BCK 3.2V
AVDD 23 31 A 3.2V
REF 25 VREF RF (IC108)
PB08 | PB01 80 | 73 8
I/09 | I/01 43 | 51 9
Y PROCESS
MOD
D/A
MOD 22
DEMOD
PBI 8 | PBI 1 20 | 13
PB XREC 8
ADCK2 6
58 MEMHD
FRF/2
PLL
SYS V RF SWP XRST XCS XSCK SO SI
66 3 60 61 62 64 65
MCK TG AFC BCK
41 40 39 38 1
XRST SYSTEM
XCS SYSTEM
CK CONT
MCK
CL
IC103
PB
A/D
LINE
9 | 16
4
18
RF AGC OUT 27
C IN 25
23 6 26 17
Q1151 BUFFER
VREF 8AD
A 4.9V
BCK 3.2V
IC103 ⑨,⑩ REC/PB H:0.1μsec V:1Vdiv 3Vp-p
IC103 ⑪,⑫ REC/PB H:0.1μsec V:1Vdiv 3Vp-p
IC103 ⑬,⑭ REC/PB H:0.1μsec V:1Vdiv 3Vp-p
IC103 ⑮,⑯ REC/PB H:0.1μsec V:1Vdiv 3Vp-p
IC103 (25) REC 0.4Vp-p H
IC101 ⑭ PB 0.32Vp-p H
IC104
CHARACTER GENERATOR
CGB 18 VB
CGG 17 VG
CGR 16 VR
CGBLK 15 VBLK
VOW2 14 VC2
VOB2 13 VBLK2
VOW1 12 VC1
VOB1 11 VBLK1
VDD 5 D 3.2V
XHSYNC 20 CGHD
XVSYNC 19 CGVD
OSC 8 CGCK
CLK 1 XOSD SCK
XCS 2 XCS OSD
DATA 3 OSD SO
XPCL 4 XSYS RST
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰
LPF
Q1027, 1030, 1031, 1033, 1035 FILTER
Q1009, 1010 SW
RF AGC CONT (IC108)
IC101
REC/PB AMP
47 REC C
1 REC Y
9 PB Y
10
AGC
11
GCA, MIX AMP
SW
REC AMP
22 23
27
34
39 38
BUFFER Q1006
SW
PB AMP
28
33
14 16 45 43 41 48 5 3 4 6 7 44 46 42 8 12 13 15 19
RF AGC IN
PB RF
PB PCM
REC AFM
REC ATF
REC PCM
RP PB MODE
BOTH REC
RAMP
RAMP CONT
D OP
PCM REC
AF REC
REC L CONT
RP IR
DOC DET
REC Y/MT CONT
MT FO
MTQ
(IC117)
(CN110)
(IC108)
STANDARD8 MODEL
HI8 MODEL
Q1016-1019, 1021-1024 1037
BUFFER
Q1022-Q1024
FILTER
PB C
Q1034 AMP
Q1014, 1015 FILTER
CN101
1 5 11
VIDEO HEAD
CH1
CH2
FLYING ERASE
IC101 ④ REC/PB 3Vp-p 2V
(SEE PAGE 4-66)
FP-379 BOARD
AFC FO (IC105)
RF AGC OUT (IC101 ⑨)
RF AGC IN (IC101 ⑪)
PB PCM RF (IC101 ⑯)
PB RF
REC RF
RF SWP
19 18 10 9 1 2 3
12 14 11 9 8 6 4
CN108
CPC (FOR CHECK)
7.1MHz 7.5Vp-p
Q1001 ⓒ REC
Q1001-1005
XFE ON
FLYING ERASE OSC
CN110
21 XCS PYRA
35 HI SI
37 HI SO
39 XHI SCK
9 XSYS RST
38 REC PCM
26 PB PCM
(CN109)
2 XS JACK IN
4 XV JACK IN
(IC101)
24 RAMP CONT
28 RAMP
30 AF REC
32 PCM REC
1 CL
(IC105) 3 MASK
(Q1601-1604) 57 CAM DD ON
11 OSD SO
13 XCS OSD
15 XOSD SCK
MODE CONTROL (HI-39)
(SEE PAGE 3-20)
(IC106)
FSC
EZ IN/XOUT
AUX IN/XOUT
REC AFM
PB RF
1.5M DEV
1.7M DEV
AU BPF
AU FADE
ZOOM CONT
AUDIO
(SEE PAGE 3-21)
CFG DUTY
REC ATF
PB RF
SERVO (SEE PAGE 3-15)
RF SWP (IC117 ④)
1/2 RF SWP (IC117 ③)
SYS V (IC117 ⑫)
XCS IO (IC117 (24))
XCS SYSTEM (IC117 (23))
XRST SYSTEM (IC117 (21))
XVC SCK (IC117 (35))
VC SO (IC117 (34))
VC SI (IC117 (33))
RP PB MODE (IC117 ①)
XFE ON (IC117 ②)
XMP/ME (IC102 ⑩)
XTBC V RESET (IC117 ⑪)
MECHA VD (IC117 (51))
TBC VD (IC117 (52))
CSYNC (IC117 (53))
MECHA FLD (IC117 (54))
XSG V RST (IC117 (100))
CK CONT (IC117 (99))
BOTH REC (IC117 (93))
DA STB (IC117 (22))
HALL GAIN
HALL OFFSET
CL
MEMI VD (IC152 (51)) MEMI VD
PB RF
VTR/CAMERA CONTROL
(SEE PAGE 3-13)
IC108
D/A CONVERTER (EVR)
39 HALL GAIN
40 HALL OFFSET
43 VREF Y
44 AFC FO ADT
45 V REF C EE
46 VREF C REC
47 IR CONT
48 RF AGC CONT
9 1.5M DEV
10 1.7M DEV
11 AU BPF
12 AU FADE
13 CFG DUTY
14
17 V ON
18 ZOOM CONT
20 AD OFFSET
21 AGC CONT1
22 AGC CONT2
23 FREQ TUNE
24 RP IR
25 MT O
26 DOC DET
27 MT FO
28 VREF 8AD
33 ACC/RF CONT
34 REC L CONT
35 REC Y/MT CONT
36 VREF RF
1 SI
2 XSCK
3 DA STB
30 SWP
8 29 31 A 4.9V

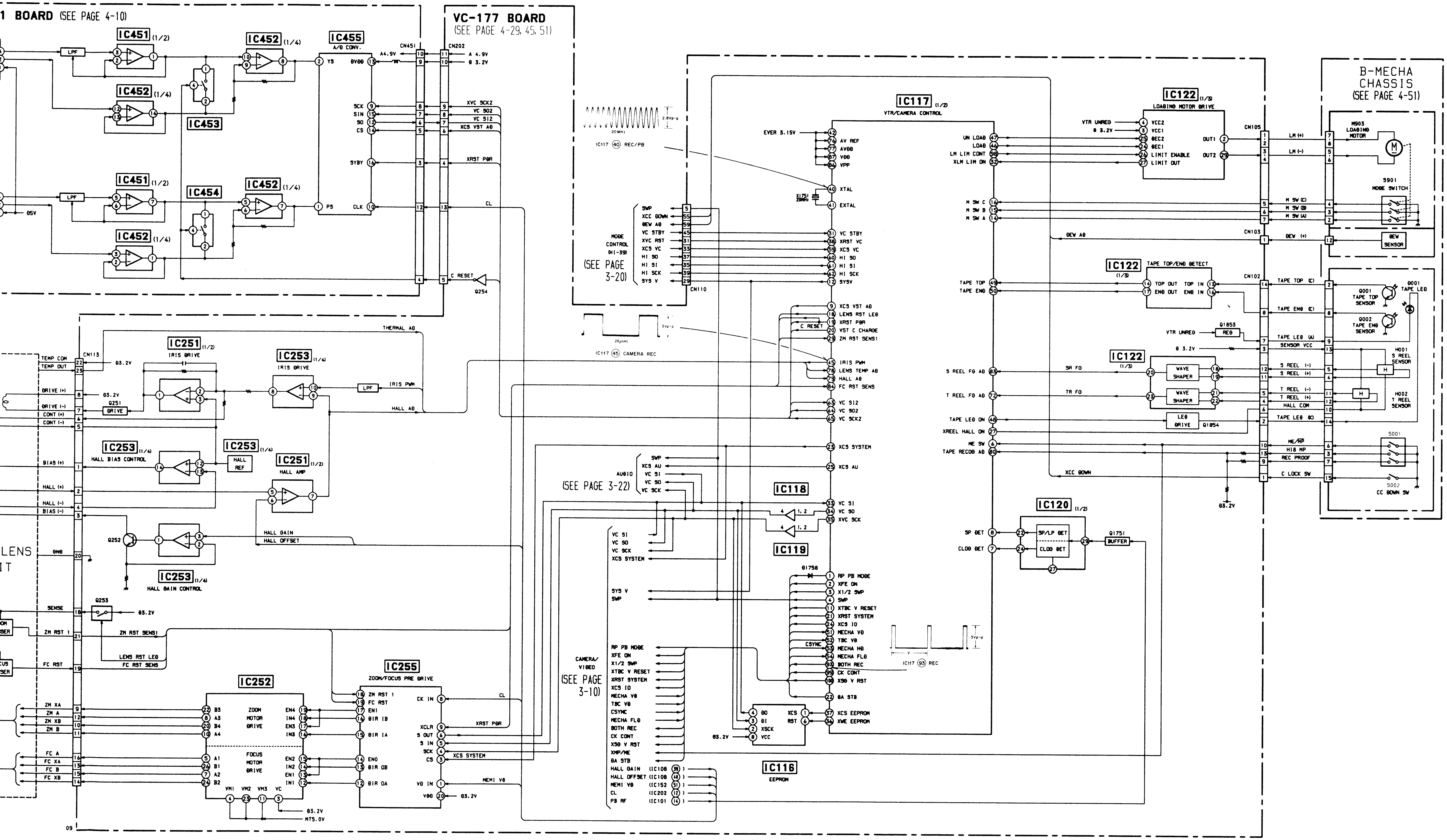
Continued on page 3-8

HI8 MODEL:CCD-TR760E/TR810E/TR910E, CC867
STANDARD8 MODEL:CCD-TR610E/TR710E

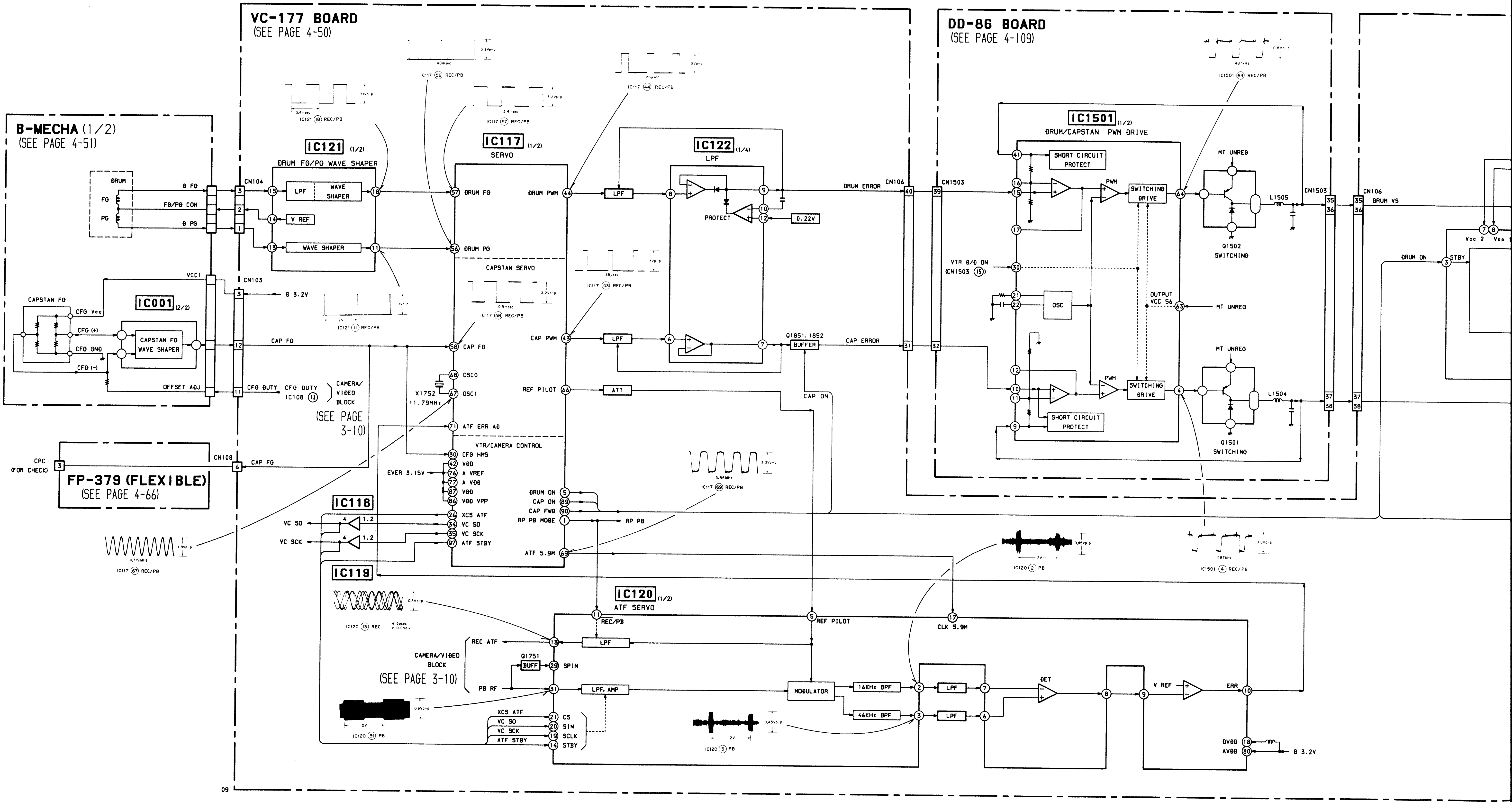
3-3. VTR/CAMERA CONTROL BLOCK DIAGRAM


SE-51 BOARD (SEE PAGE 4-10)
SE451
YAW SENSOR
SE452
PITCH SENSOR
D5V
LPF
IC451 (1/2)
IC452 (1/4)
IC453
IC454
IC455
A/D CONV.
YS
PS
DVDD
SCK
SIN
SO
CS
SYBY
CLK
A4.9V
CN451
CN202
A 4.9V
D 3.2V
XVC SCK2
VC SO2
VC SI2
XCS VST AD
XRST PDR
CL
C RESET
Q254
VC-177 BOARD
(SEE PAGE 4-29, 45, 51)
2.8Vp-p
20MHz
IC117 (40) REC/PB
3Vp-p
26μsec
IC117 (45) CAMERA REC
MODE CONTROL (HI-39)
(SEE PAGE 3-20)
SWP
XCC DOWN
DEW AD
VC STBY
XVC RST
XCS VC
HI SO
HI SI
HI SCK
SYS V
CN110
EVER 3.15V
AV REF
AVDD
VDD
VPP
XTAL
EXTAL
X1751 20MHz
XRST VC
SYSV
LENS RST LED
VST C CHARGE
ZM RST SENS1
IRIS PWM
LENS TEMP AD
HALL AD
FC RST SENS
VC SI2
VC SCK2
XCS SYSTEM
XCS AU
AUDIO
(SEE PAGE 3-22)
VC SI
VC SO
VC SCK
XVC SCK
IC118
IC119
1, 2
4
D1758
RP PB MODE
XFE ON
X1/2 SWP
XTBC V RESET
XRST SYSTEM
XCS IO
MECHA VD
TBC VD
CSYNC
MECHA HD
MECHA FLD
BOTH REC
CK CONT
XSD V RST
XMP/ME
DA STB
CAMERA/VIDEO
(SEE PAGE 3-10)
HALL GAIN (IC108 (39))
HALL OFFSET (IC108 (40))
MEMI VD (IC152 (51))
CL (IC202 (12))
PB RF (IC101 (14))
XCS EEPROM
XWE EEPROM
DO
DI
XSCK
VCC
XCS
RST
D3.2V
IC116
EEPROM
VT
THERMAL AD
CN113
TEMP COM
TEMP OUT
M904 IRIS METER
DRIVE (+)
DRIVE (-)
CONT (+)
CONT (-)
Q251
DRIVE
IC251 (1/2)
IRIS DRIVE
IC253 (1/4)
IRIS DRIVE
HALL BIAS CONTROL
HALL REF
HALL AMP
HALL GAIN CONTROL
HALL GAIN
HALL OFFSET
BIAS (+)
HALL (+)
HALL (-)
BIAS (-)
H
Q252
ZOOM LENS UNIT
GND
SENSE
Q253
ZOOM SENSER
FOCUS SENSER
ZM RST 1
FC RST
ZM RST SENS1
LENS RST LED
FC RST SENS
M906 ZOOM MOTOR
M905 FOCUS MOTOR
ZM XA
ZM A
ZM XB
ZM B
FC A
FC XA
FC B
FC XB
IC252
ZOOM MOTOR DRIVE
FOCUS MOTOR DRIVE
B3
A3
B4
A4
A1
B1
A2
B2
EN4
IN4
EN3
IN3
EN2
IN2
EN1
IN1
VM1
VM2
VM3
VC
MT5.0V
IC255
ZOOM/FOCUS PRE DRIVE
ZM RST 1
FC RST
EN1
DIR 1B
DIR 1A
EN0
DIR 0B
DIR 0A
CK IN
XCLR
S OUT
S IN
SCK
CS
VD IN
VDD
MEMI VD
09

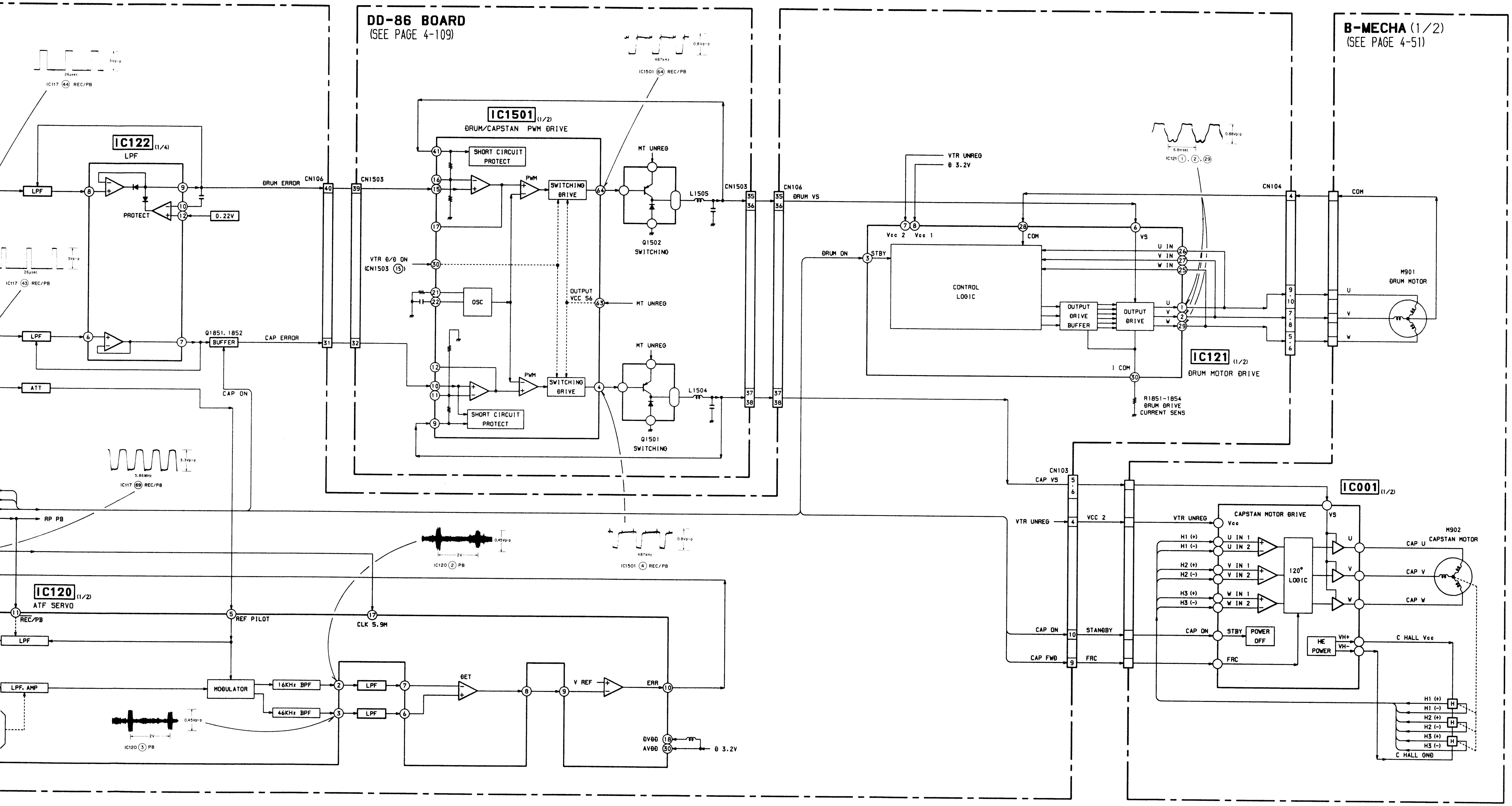
CAMERA CONTROL BLOCK DIAGRAM


1 BOARD (SEE PAGE 4-10)
VC-177 BOARD
(SEE PAGE 4-29, 45, 51)
B-MECHA CHASSIS
(SEE PAGE 4-51)
IC451 (1/2)
IC452 (1/4)
IC453
IC454
IC455
A/D CONV.
LPF
Y5
8VDD
SCK
SIN
SO
CS
SYBY
CLK
P5
A4.9V
CN451
CN202
A 4.9V
D 3.2V
XVC SCK2
VC SO2
VC SI2
XCS VST AD
XRST PGR
CL
C RESET
Q254
IC117 (1/2)
VTR/CAMERA CONTROL
EVER 3.15V
AV REF
AVDD
VDD
VPP
XTAL
EXTAL
X1751 20MHz
IC117 (40) REC/PB
20MHz
2.8Vp-p
MODE CONTROL (41-39)
(SEE PAGE 3-20)
SWP
XCC DOWN
DEW AD
VC STBY
XVC RST
XCS VC
HI SO
HI SI
HI SCK
SYS V
CN110
VC STBY
XRST VC
XCS VC
HI SO
HI SI
HI SCK
SYSV
XCS VST AD
LENS RST LED
XRST PGR
VST C CHARGE
ZM RST SENS1
IRIS PWM
LENS TEMP AD
HALL AD
FC RST SENS
VC SI2
VC SO2
VC SCK2
XCS SYSTEM
XCS AU
VC SI
VC SO
XVC SCK
IC117 (45) CAMERA REC
26μsec
3Vp-p
THERMAL AD
CN113
TEMP COM
TEMP OUT
D3.2V
DRIVE (+)
DRIVE (-)
CONT (+)
CONT (-)
Q251
DRIVE
IC251 (1/2)
IRIS DRIVE
IC253 (1/4)
IRIS DRIVE
HALL AD
IC253 (1/4)
HALL BIAS CONTROL
HALL REF
IC251 (1/2)
HALL AMP
BIAS (+)
HALL (+)
HALL (-)
BIAS (-)
Q252
HALL GAIN
HALL OFFSET
IC253 (1/4)
HALL GAIN CONTROL
LENS
GND
SENSE
Q253
ZM RST 1
ZM RST SENS1
LENS RST LED
FC RST SENS
FC RST
ZM XA
ZM A
ZM XB
ZM B
FC A
FC XA
FC B
FC XB
IC252
ZOOM MOTOR DRIVE
FOCUS MOTOR DRIVE
B3
A3
B4
A4
A1
B1
A2
B2
EN4
IN4
EN3
IN3
EN2
IN2
EN1
IN1
VM1
VM2
VM3
VC
D3.2V
MT5.0V
IC255
ZOOM/FOCUS PRE DRIVE
ZM RST 1
FC RST
EN1
DIR 1B
DIR 1A
EN0
DIR 0B
DIR 0A
CK IN
XCLR
S OUT
S IN
SCK
CS
VD IN
VDD
XRST PGR
XCS SYSTEM
MEMI VD
AUDIO
(SEE PAGE 3-22)
SWP
XCS AU
VC SI
VC SO
VC SCK
IC118
IC119
1, 2
XCS SYSTEM
SYS V
CAMERA/VIDEO
(SEE PAGE 3-10)
RP PB MODE
XFE ON
X1/2 SWP
XTBC V RESET
XRST SYSTEM
XCS IO
MECHA VD
TBC VD
CSYNC
MECHA FLD
DOTH REC
CK CONT
X50 V RST
XMP/ME
DA STB
HALL GAIN (IC108 (39))
HALL OFFSET (IC108 (44))
MEMI VD (IC152 (51))
CL (IC202 (12))
PB RF (IC101 (6))
D1750
RP PB MODE
XFE ON
X1/2 SWP
SWP
XTBC V RESET
XRST SYSTEM
XCS IO
MECHA VD
TBC VD
MECHA HD
MECHA FLD
DOTH REC
CK CONT
X50 V RST
DA STB
XCS EEPROM
XWE EEPROM
IC116
EEPROM
DO
DI
XSCK
VCC
XCS
RST
D3.2V
IC117 (93) REC
3Vp-p
IC122 (1/3)
LOADING MOTOR DRIVE
VTR UNREG
D 3.2V
VCC2
VCC1
DEC2
DEC1
LIMIT ENABLE
LIMIT OUT
OUT1
OUT2
UN LOAD
LOAD
LM LIM CONT
XLM LIM ON
CN105
LM (+)
LM (-)
M903
LOADING MOTOR
M SW C
M SW B
M SW A
S901
MODE SWITCH
DEW AD
CN103
DEW (+)
DEW SENSOR
IC122 (1/3)
TAPE TOP/END DETECT
TOP OUT
END OUT
TOP IN
END IN
TAPE TOP
TAPE END
CN102
TAPE TOP (C)
Q001 TAPE TOP SENSOR
D001 TAPE LED
TAPE END (C)
Q002 TAPE END SENSOR
VTR UNREG
Q1853
REG
D 3.2V
TAPE LED (A)
SENSOR VCC
IC122 (1/3)
WAVE SHAPER
S REEL FG AD
SR FG
T REEL FG AD
TR FG
S REEL (-)
S REEL (+)
T REEL (-)
T REEL (+)
HALL COM
H001 S REEL SENSOR
H002 T REEL SENSOR
TAPE LED ON
LED DRIVE
Q1854
TAPE LED GD
XREEL HALL ON
ME SW
TAPE RECOG AD
ME/MP
HI8 MP
REC PROOF
C LOCK SW
XCC DOWN
S001
S002
CC DOWN SW
D3.2V
IC120 (1/2)
SP DET
CLOG DET
SP/LP DET
Q1751
BUFFER
09

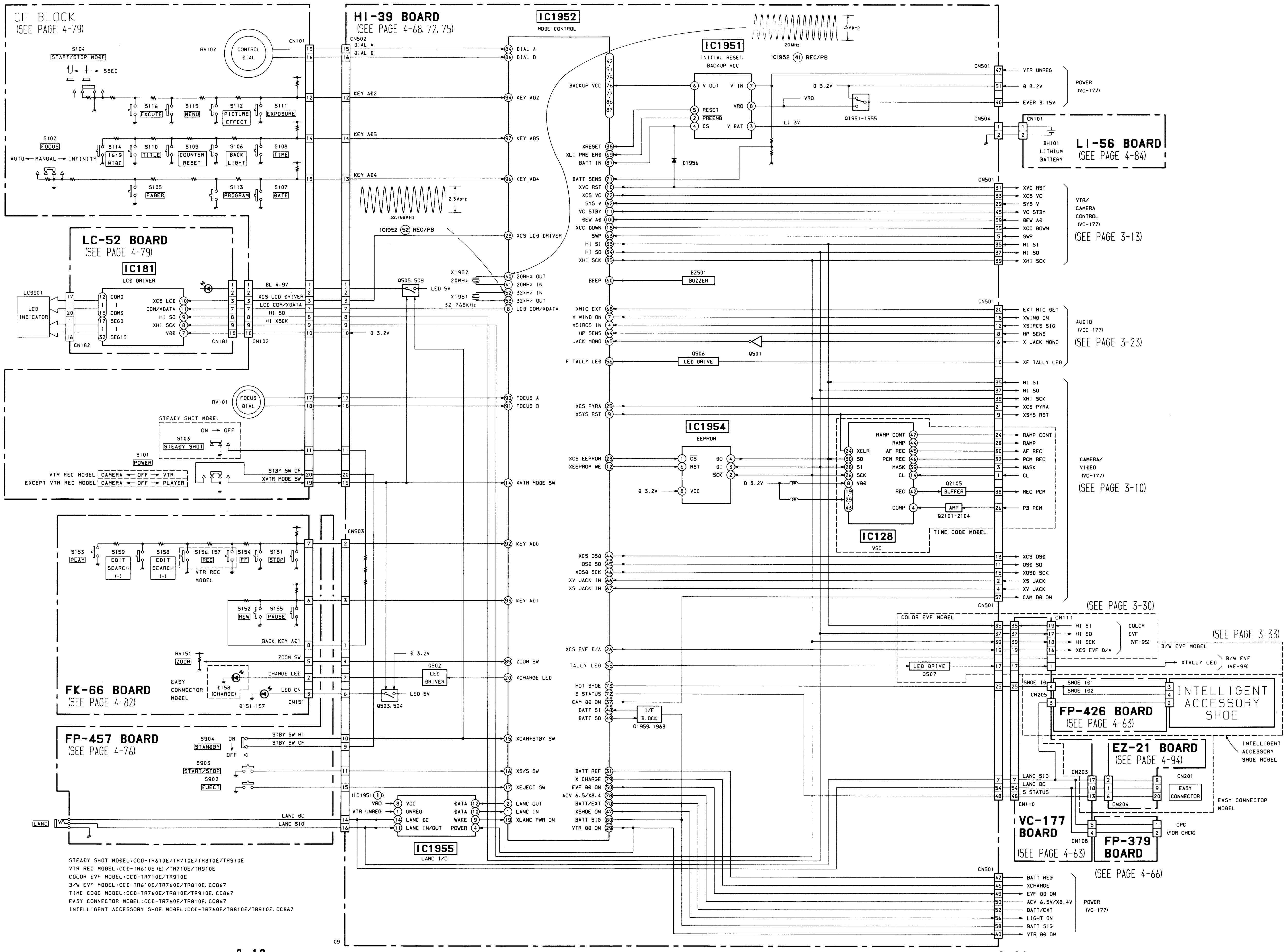
3-4. SERVO BLOCK DIAGRAM



VC-177 BOARD
(SEE PAGE 4-50)
B-MECHA (1/2)
(SEE PAGE 4-51)
DRUM
FG
PG
D FG
FG/PG COM
D PG
CAPSTAN FG
CFG Vcc
CFG (+)
CFG GND
CFG (-)
IC001 (2/2)
CAPSTAN FG WAVE SHAPER
VCC1
OFFSET ADJ
CN104
CN103
D 3.2V
CAP FG
CFG DUTY
CFG DUTY IC108 ⑬
CAMERA/VIDEO BLOCK
(SEE PAGE 3-10)
IC121 (1/2)
DRUM FG/PG WAVE SHAPER
LPF
WAVE SHAPER
V REF
IC121 ⑱ REC/PB
IC121 ⑪ REC/PB
IC117 (1/2)
SERVO
DRUM FG
DRUM PG
DRUM PWM
CAPSTAN SERVO
CAP FG
CAP PWM
OSCO
OSCI
X1752 11.79MHz
REF PILOT
ATF ERR AD
VTR/CAMERA CONTROL
CFG HMS
VDD
A VREF
A VDD
VDD VPP
EVER 3.15V
XCS ATF
VC SO
VC SCK
ATF STBY
DRUM ON
CAP ON
CAP FWD
RP PB MODE
RP PB
ATF 5.9M
IC117 ⑤⑥ REC/PB
IC117 ⑤⑦ REC/PB
IC117 ④④ REC/PB
IC117 ④③ REC/PB
IC117 ⑤⑧ REC/PB
IC117 ⑥⑨ REC/PB
IC117 ⑥⑦ REC/PB
IC122 (1/4)
LPF
PROTECT
0.22V
ATT
Q1851, 1852 BUFFER
DRUM ERROR
CAP ERROR
CAP ON
CN106
CN108
CPC (FOR CHECK)
FP-379 (FLEXIBLE)
(SEE PAGE 4-66)
IC118
IC119
IC120 (1/2)
ATF SERVO
REC/PB
REF PILOT
CLK 5.9M
REC ATF
SPIN
PB RF
Q1751 BUFF
LPF, AMP
CS
SIN
SCLK
STBY
MODULATOR
16KHz BPF
46KHz BPF
DET
V REF
ERR
DVDD
AVDD
D 3.2V
IC120 ⑬ REC
IC120 ㉛ PB
IC120 ② PB
IC120 ③ PB
DD-86 BOARD
(SEE PAGE 4-109)
CN1503
IC1501 (1/2)
DRUM/CAPSTAN PWM DRIVE
SHORT CIRCUIT PROTECT
PWM
SWITCHING DRIVE
OSC
OUTPUT VCC 56
MT UNREG
VTR D/D ON (CN1503 ⑮)
Q1502 SWITCHING
Q1501 SWITCHING
L1505
L1504
IC1501 ⑥④ REC/PB
IC1501 ④ REC/PB
CN106
DRUM VS
DRUM ON
STBY
Vcc 2
Vcc
09

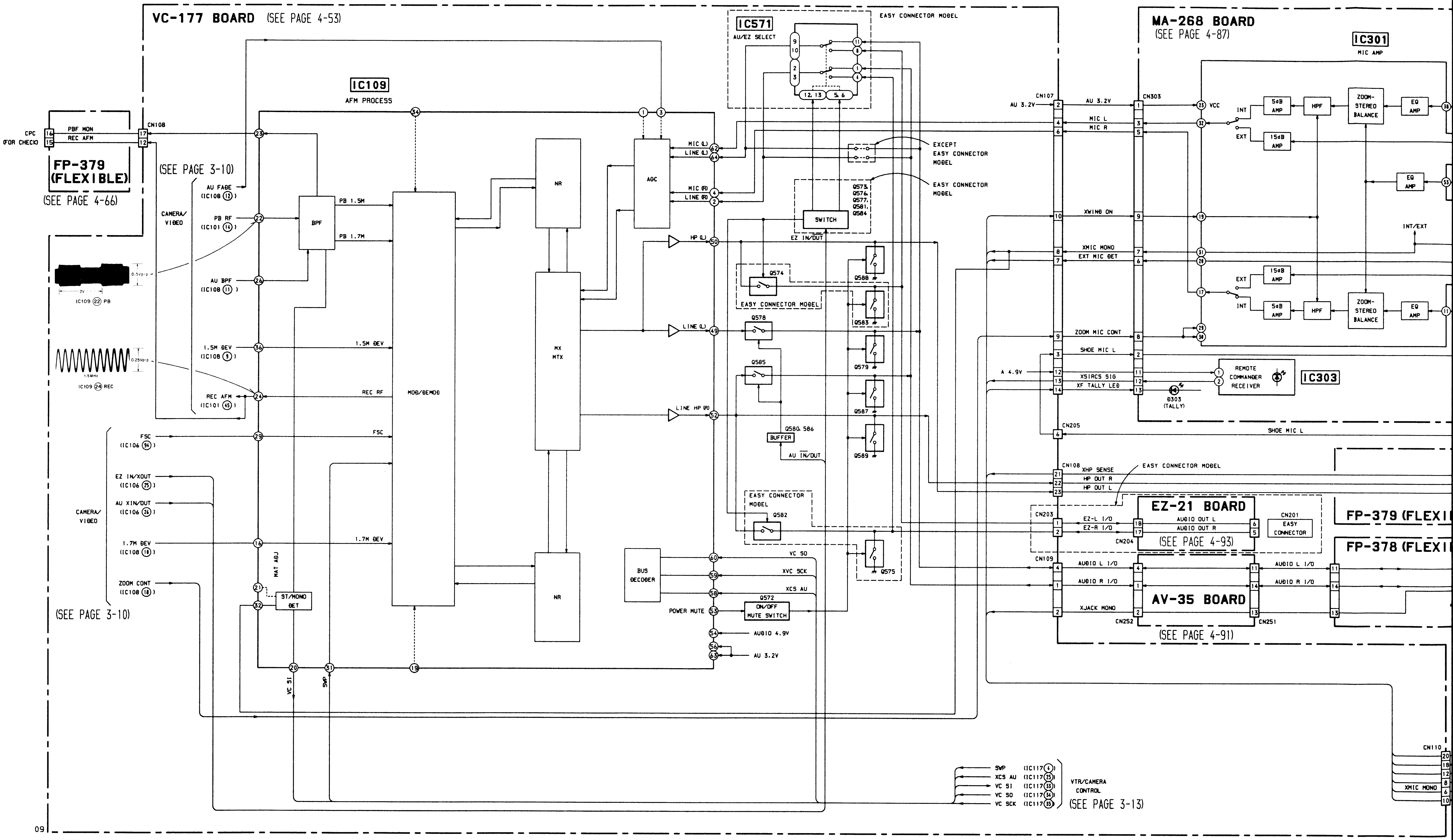

DD-86 BOARD
(SEE PAGE 4-109)
B-MECHA (1/2)
(SEE PAGE 4-51)
IC122 (1/4)
LPF
PROTECT
0.22V
IC117 ㊹ REC/PB
26μsec
3Vp-p
IC117 ㊸ REC/PB
IC117 ⑳ REC/PB
5.86MHz
3.3Vp-p
DRUM ERROR
CN106
CN1503
Q1851, 1852
BUFFER
CAP ERROR
CAP ON
ATT
RP PB
IC1501 (1/2)
DRUM/CAPSTAN PWM DRIVE
SHORT CIRCUIT PROTECT
PWM
SWITCHING DRIVE
VTR 8/8 ON
(CN1503 ⑮)
OSC
OUTPUT VCC 56
MT UNREG
Q1502 SWITCHING
Q1501 SWITCHING
L1505
L1504
IC1501 ㊿ REC/PB
487kHz
0.8Vp-p
IC1501 ④ REC/PB
DRUM VS
DRUM ON
VTR UNREG
8 3.2V
Vcc 2
Vcc 1
COM
VS
STBY
CONTROL LOGIC
OUTPUT DRIVE BUFFER
OUTPUT DRIVE
U IN
V IN
W IN
U
V
W
I COM
IC121 (1/2)
DRUM MOTOR DRIVE
R1851-1854
DRUM DRIVE CURRENT SENS
6.8msec
0.88Vp-p
IC121 ①, ②, ㉙
CN104
M901
DRUM MOTOR
CN103
CAP VS
VTR UNREG
VCC 2
CAP ON
STANDBY
CAP FWD
FRC
IC001 (1/2)
CAPSTAN MOTOR DRIVE
Vcc
H1 (+)
H1 (-)
H2 (+)
H2 (-)
H3 (+)
H3 (-)
U IN 1
U IN 2
V IN 1
V IN 2
W IN 1
W IN 2
120° LOGIC
STBY
POWER OFF
HE POWER
VH+
VH-
C HALL Vcc
C HALL GND
CAP U
CAP V
CAP W
M902
CAPSTAN MOTOR
IC120 (1/2)
ATF SERVO
REC/PB
LPF
LPF, AMP
REF PILOT
CLK 5.9M
MODULATOR
16KHz BPF
46KHz BPF
DET
V REF
ERR
DVDD
AVDD
8 3.2V
IC120 ② PB
IC120 ③ PB
2V
0.45Vp-p

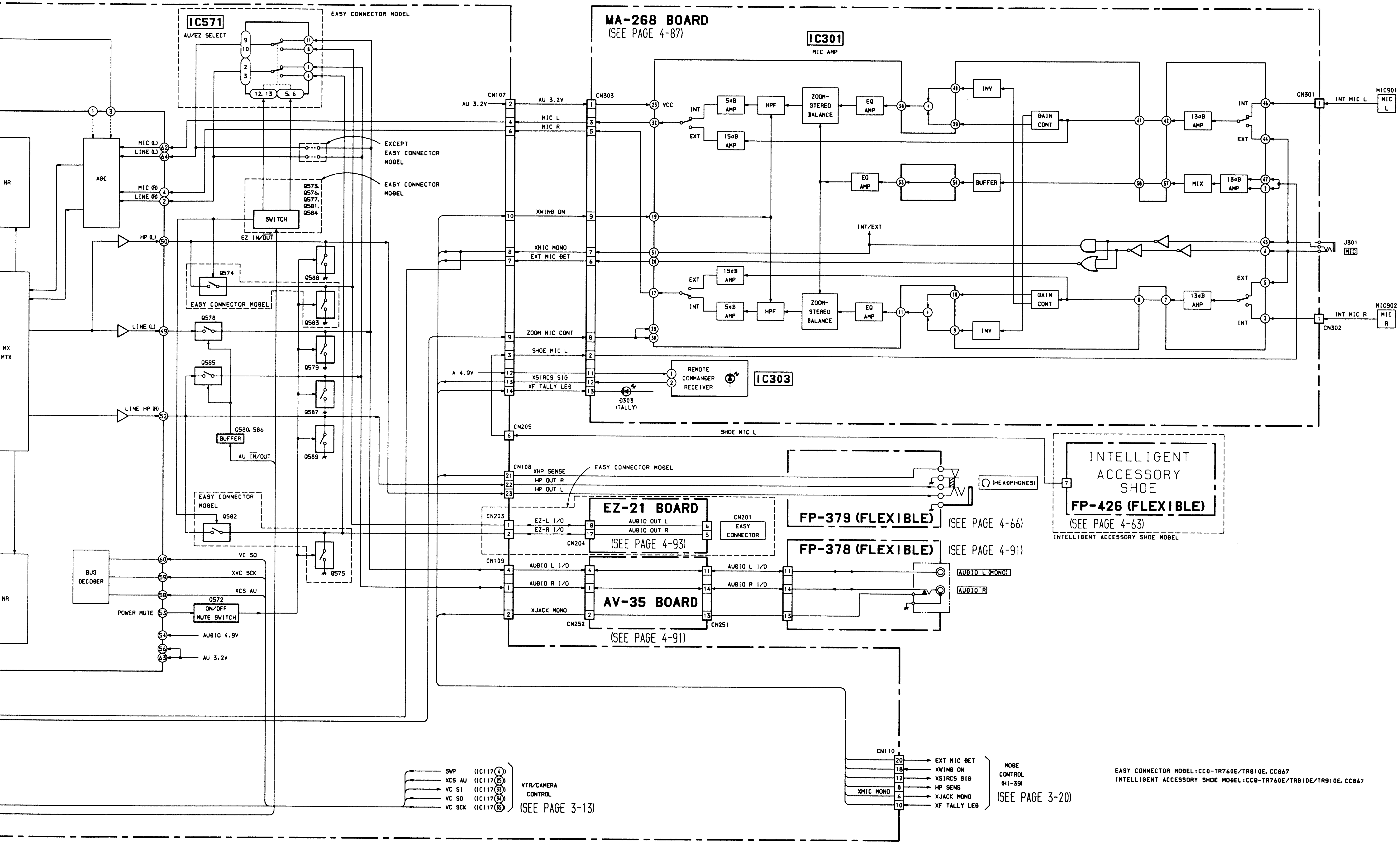
3-5. MODE CONTROL BLOCK DIAGRAM


CF BLOCK
(SEE PAGE 4-79)
S104
START/STOP MODE
5SEC
RV102
CONTROL DIAL
CN101
S116
EXCUTE
S115
MENU
S112
PICTURE EFFECT
S111
EXPOSURE
S102
FOCUS
AUTO ← MANUAL → INFINITY
S114
16:9 WIDE
S110
TITLE
S109
COUNTER RESET
S106
BACK LIGHT
S108
TIME
S105
FADER
S113
PROGRAM
S107
DATE
LC-52 BOARD
(SEE PAGE 4-79)
IC181
LCD DRIVER
LCD901
LCD INDICATOR
COM0
COM3
SEG0
SEG15
XCS LCD
COM/XDATA
HI SO
XHI SCK
VDD
CN182
CN181
CN102
BL 4.9V
XCS LCD DRIVER
LCD COM/XDATA
HI SO
HI XSCK
RV101
FOCUS DIAL
STEADY SHOT MODEL
ON → OFF
S103
STEADY SHOT
S101
POWER
VTR REC MODEL
CAMERA ← OFF → VTR
EXCEPT VTR REC MODEL
CAMERA ← OFF → PLAYER
STBY SW CF
XVTR MODE SW
FK-66 BOARD
(SEE PAGE 4-82)
S153
PLAY
S159
EDIT SEARCH (−)
S158
EDIT SEARCH (+)
S156, 157
REC
VTR REC MODEL
S154
FF
S151
STOP
S152
REW
S155
PAUSE
BACK KEY AD1
RV151
ZOOM
ZOOM SW
EASY CONNECTOR MODEL
D158 (CHARGE)
CHARGE LED
LED ON
D151-157
CN151
FP-457 BOARD
(SEE PAGE 4-76)
S904
STANDBY
ON
OFF
STBY SW HI
STBY SW CF
S903
START/STOP
S902
EJECT
LANC
LANC DC
LANC SIG
HI-39 BOARD
(SEE PAGE 4-68, 72, 75)
CN502
DIAL A
DIAL B
KEY AD2
KEY AD5
KEY AD4
32.768KHz
2.3Vp-p
IC1952 (52) REC/PB
Q505, 509
LED 5V
D 3.2V
X1952
20MHz
X1951
32.768KHz
CN503
Q502
LED DRIVER
Q503, 504
(IC1951 (8))
VRO
VTR UNREG
IC1955
LANC I/O
VCC
UNREG
LANC DC
LANC IN/OUT
DATA
DATA
WAKE
POWER
IC1952
MODE CONTROL
DIAL A
DIAL B
KEY AD2
KEY AD5
KEY AD4
XCS LCD DRIVER
20MHz OUT
20MHz IN
32kHz IN
32kHz OUT
LCD COM/XDATA
FOCUS A
FOCUS B
XVTR MODE SW
KEY AD0
KEY AD1
ZOOM SW
XCHARGE LED
XCAM+STBY SW
XS/S SW
XEJECT SW
LANC OUT
LANC IN
XLANC PWR ON
BACKUP VCC
XRESET
XLI PRE END
BATT IN
BATT SENS
XVC RST
XCS VC
SYS V
VC STBY
DEW AD
XCC DOWN
SWP
HI SI
HI SO
XHI SCK
BEEP
XMIC EXT
X WIND ON
XSIRCS IN
HP SENS
JACK MONO
F TALLY LED
XCS PYRA
XSYS RST
XCS EEPROM
XEEPROM WE
XCS OSD
OSD SO
XOSD SCK
XV JACK IN
XS JACK IN
XCS EVF D/A
TALLY LED
HOT SHOE
S STATUS
CAM DD ON
BATT SI
BATT SO
BATT REF
X CHARGE
EVF DD ON
ACV 6.5/X8.4
BATT/EXT
XSHOE ON
BATT SIG
VTR DD ON
20MHz
1.5Vp-p
IC1952 (41) REC/PB
IC1951
INITIAL RESET, BACKUP VCC
V OUT
V IN
RESET
PREEND
CS
VRO
V BAT
D 3.2V
VRO
Q1951-1955
LI 3V
D1956
BZ501
BUZZER
Q506
LED DRIVE
Q501
IC1954
EEPROM
CS
RST
VCC
DO
DI
SCK
D 3.2V
IC128
VSC
XCLR
SO
SI
SCK
VDD
RAMP CONT
RAMP
AF REC
PCM REC
MASK
CL
REC
COMP
Q2105
BUFFER
AMP
Q2101-2104
TIME CODE MODEL
I/F BLOCK
Q1959, 1963
CN501
VTR UNREG
D 3.2V
EVER 3.15V
POWER (VC-177)
CN504
CN101
BH101
LITHIUM BATTERY
LI-56 BOARD
(SEE PAGE 4-84)
XVC RST
XCS VC
SYS V
VC STBY
DEW AD
XCC DOWN
SWP
HI SI
HI SO
XHI SCK
VTR/ CAMERA CONTROL (VC-177)
(SEE PAGE 3-13)
EXT MIC DET
XWIND ON
XSIRCS SIG
HP SENS
X JACK MONO
XF TALLY LED
AUDIO (VCC-177)
(SEE PAGE 3-23)
HI SI
HI SO
XHI SCK
XCS PYRA
XSYS RST
RAMP CONT
RAMP
AF REC
PCM REC
MASK
CL
REC PCM
PB PCM
CAMERA/ VIDEO (VC-177)
(SEE PAGE 3-10)
XCS OSD
OSD SO
XOSD SCK
XS JACK
XV JACK
CAM DD ON
(SEE PAGE 3-30)
COLOR EVF MODEL
CN111
HI SI
HI SO
HI SCK
XCS EVF D/A
COLOR EVF (VF-95)
(SEE PAGE 3-33)
B/W EVF MODEL
XTALLY LED
B/W EVF (VF-99)
LED DRIVE
Q507
SHOE ID
SHOE ID1
SHOE ID2
CN205
INTELLIGENT ACCESSORY SHOE
FP-426 BOARD
(SEE PAGE 4-63)
INTELLIGENT ACCESSORY SHOE MODEL
EZ-21 BOARD
(SEE PAGE 4-94)
CN203
CN201
EASY CONNECTOR
CN204
EASY CONNECTOR MODEL
LANC SIG
LANC DC
S STATUS
CN110
VC-177 BOARD
(SEE PAGE 4-63)
CN108
FP-379 BOARD
(SEE PAGE 4-66)
CPC (FOR CHCK)
BATT REG
XCHARGE
EVF DD ON
ACV 6.5V/X8.4V
BATT/EXT
LIGHT ON
BATT SIG
VTR DD ON
POWER (VC-177)
09

STEADY SHOT MODEL:CCD-TR610E/TR710E/TR810E/TR910E
VTR REC MODEL:CCD-TR610E (E) /TR710E/TR910E
COLOR EVF MODEL:CCD-TR710E/TR910E
B/W EVF MODEL:CCD-TR610E/TR760E/TR810E, CC867
TIME CODE MODEL:CCD-TR760E/TR810E/TR910E, CC867
EASY CONNECTOR MODEL:CCD-TR760E/TR810E, CC867
INTELLIGENT ACCESSORY SHOE MODEL:CCD-TR760E/TR810E/TR910E, CC867

3-6. AUDIO BLOCK DIAGRAM

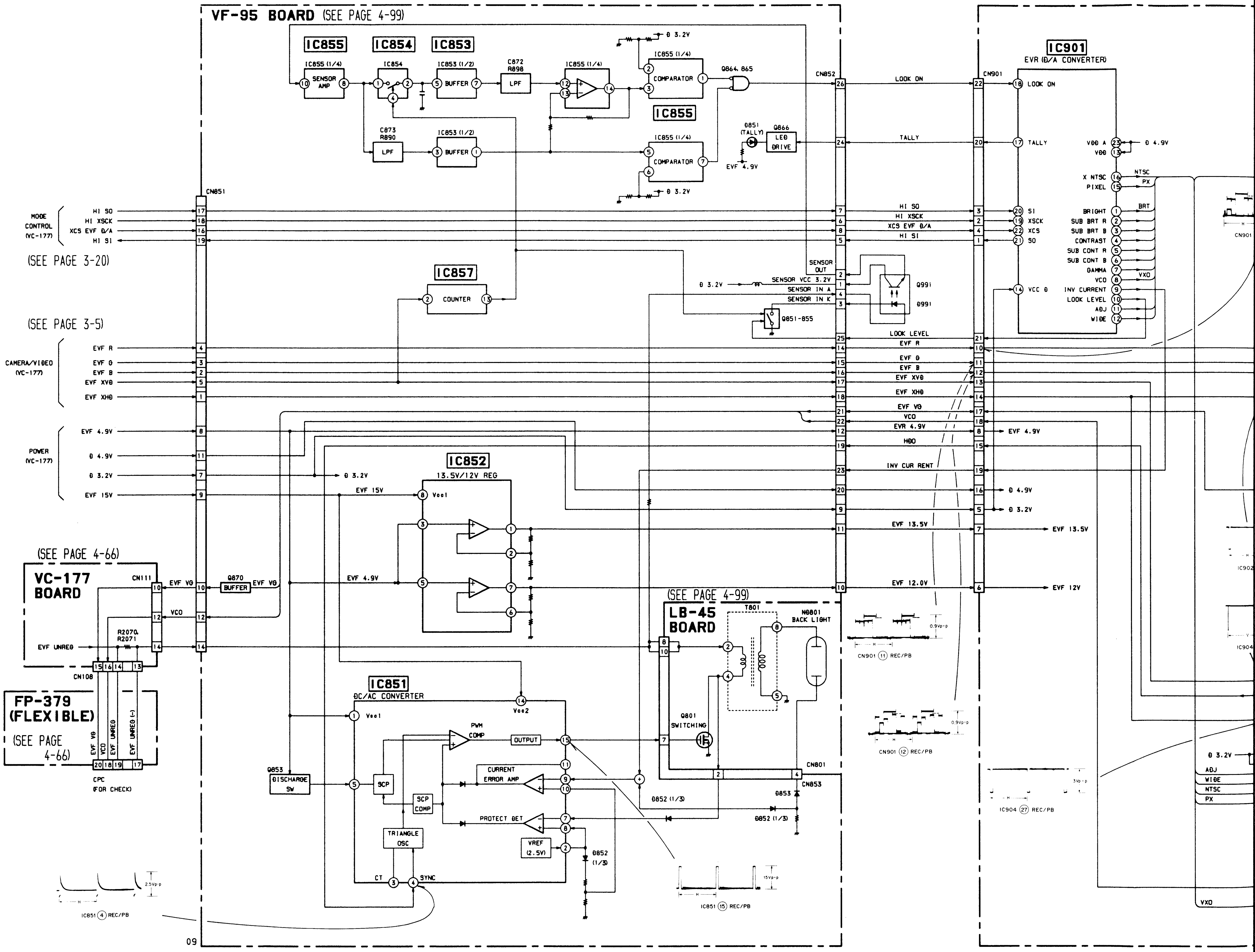

VC-177 BOARD (SEE PAGE 4-53)
IC109
AFM PROCESS
IC571
AU/EZ SELECT
EASY CONNECTOR MODEL
CPC (FOR CHECK)
PBF MON
REC AFM
CN108
FP-379 (FLEXIBLE)
(SEE PAGE 4-66)
(SEE PAGE 3-10)
CAMERA/ VIDEO
AU FADE (IC108 ⑫)
PB RF (IC101 ⑭)
AU BPF (IC108 ⑪)
1.5M DEV (IC108 ⑨)
REC AFM (IC101 ㊺)
IC109 ㉒ PB
IC109 ㉔ REC
0.5Vp-p
0.25Vp-p
2V
1.5MHz
BPF
PB 1.5M
PB 1.7M
1.5M DEV
REC RF
FSC
1.7M DEV
MOD/DEMOD
NR
MX MTX
AGC
MIC (L)
LINE (L)
MIC (R)
LINE (R)
HP (L)
LINE (L)
LINE HP (R)
FSC (IC106 ㉞)
EZ IN/XOUT (IC106 ㉕)
AU XIN/OUT (IC106 ㉖)
1.7M DEV (IC108 ⑩)
ZOOM CONT (IC108 ⑱)
(SEE PAGE 3-10)
MAT ADJ
ST/MONO DET
VC SI
SWP
BUS DECODER
VC SO
XVC SCK
XCS AU
POWER MUTE
Q572 ON/OFF MUTE SWITCH
AUDIO 4.9V
AU 3.2V
EXCEPT EASY CONNECTOR MODEL
EASY CONNECTOR MODEL
Q573, Q576, Q577, Q581, Q584
SWITCH
EZ IN/OUT
Q574
Q578
Q585
Q580, 586 BUFFER
AU IN/OUT
Q582
Q588
Q583
Q579
Q587
Q589
Q575
CN107
AU 3.2V
MIC L
MIC R
XWIND ON
XMIC MONO
EXT MIC DET
ZOOM MIC CONT
SHOE MIC L
A 4.9V
XSIRCS SIG
XF TALLY LED
CN205
CN108
XHP SENSE
HP OUT R
HP OUT L
CN203
EZ-L I/O
EZ-R I/O
CN109
AUDIO L I/O
AUDIO R I/O
XJACK MONO
MA-268 BOARD (SEE PAGE 4-87)
IC301
MIC AMP
CN303
VCC
INT
EXT
5dB AMP
15dB AMP
HPF
ZOOM-STEREO BALANCE
EQ AMP
INT/EXT
REMOTE COMMANDER RECEIVER
IC303
D303 (TALLY)
SHOE MIC L
EZ-21 BOARD
AUDIO OUT L
AUDIO OUT R
CN204
(SEE PAGE 4-93)
CN201 EASY CONNECTOR
AV-35 BOARD
CN252
CN251
(SEE PAGE 4-91)
FP-379 (FLEXI
FP-378 (FLEXI
SWP (IC117 ④)
XCS AU (IC117 ㉕)
VC SI (IC117 ㉝)
VC SO (IC117 ㉞)
VC SCK (IC117 ㉟)
VTR/CAMERA CONTROL
(SEE PAGE 3-13)
CN110
XMIC MONO
09


IC571
AU/EZ SELECT
EASY CONNECTOR MODEL
EXCEPT EASY CONNECTOR MODEL
EASY CONNECTOR MODEL
Q573, Q576, Q577, Q581, Q584
SWITCH
EZ IN/OUT
NR
AGC
MIC (L)
LINE (L)
MIC (R)
LINE (R)
HP (L)
LINE (L)
MX MTX
LINE HP (R)
Q574
EASY CONNECTOR MODEL
Q578
Q585
Q580, 586
BUFFER
AU IN/OUT
Q588
Q583
Q579
Q587
Q589
EASY CONNECTOR MODEL
Q582
Q575
BUS DECODER
VC SO
XVC SCK
XCS AU
Q572
ON/OFF MUTE SWITCH
POWER MUTE
AUDIO 4.9V
AU 3.2V
CN107
AU 3.2V
MIC L
MIC R
XWIND ON
XMIC MONO
EXT MIC DET
ZOOM MIC CONT
SHOE MIC L
A 4.9V
XSIRCS SIG
XF TALLY LED
CN205
SHOE MIC L
CN108
XHP SENSE
HP OUT R
HP OUT L
EASY CONNECTOR MODEL
CN203
EZ-L I/O
EZ-R I/O
CN204
EZ-21 BOARD
AUDIO OUT L
AUDIO OUT R
CN201
EASY CONNECTOR
(SEE PAGE 4-93)
CN109
AUDIO L I/O
AUDIO R I/O
XJACK MONO
CN252
AV-35 BOARD
CN251
(SEE PAGE 4-91)
MA-268 BOARD
(SEE PAGE 4-87)
IC301
MIC AMP
CN303
VCC
INT
EXT
5dB AMP
15dB AMP
HPF
ZOOM-STEREO BALANCE
EQ AMP
INV
GAIN CONT
13dB AMP
MIX
BUFFER
INT/EXT
REMOTE COMMANDER RECEIVER
IC303
D303 (TALLY)
CN301
INT MIC L
MIC901 MIC L
J301 MIC
INT MIC R
MIC902 MIC R
CN302
FP-379 (FLEXIBLE)
(SEE PAGE 4-66)
(HEADPHONES)
INTELLIGENT ACCESSORY SHOE
FP-426 (FLEXIBLE)
(SEE PAGE 4-63)
INTELLIGENT ACCESSORY SHOE MODEL
FP-378 (FLEXIBLE)
(SEE PAGE 4-91)
AUDIO L (MONO)
AUDIO R
CN110
EXT MIC DET
XWIND ON
XSIRCS SIG
HP SENS
XJACK MONO
XF TALLY LED
XMIC MONO
MODE CONTROL (HI-39)
(SEE PAGE 3-20)
SWP (IC117④)
XCS AU (IC117㉕)
VC SI (IC117㉝)
VC SO (IC117㉞)
VC SCK (IC117㉟)
VTR/CAMERA CONTROL
(SEE PAGE 3-13)

EASY CONNECTOR MODEL:CCD-TR760E/TR810E, CC867
INTELLIGENT ACCESSORY SHOE MODEL:CCD-TR760E/TR810E/TR910E, CC867

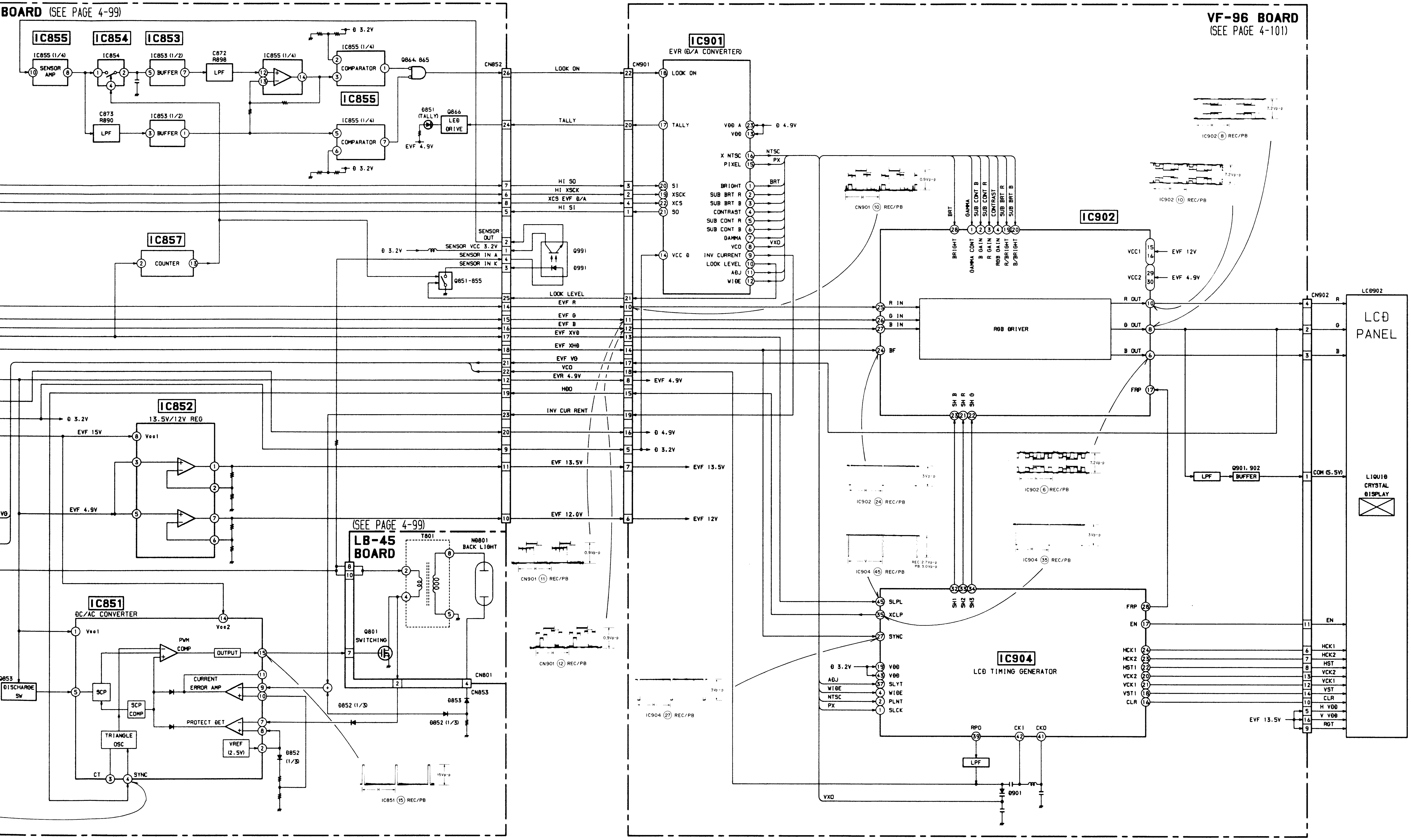
3-7. COLOR EVF BLOCK DIAGRAM (COLOR EVF MODEL only)

(COLOR EVF Model: CCD-TR710E/TR910E)


VF-95 BOARD (SEE PAGE 4-99)
IC855
IC854
IC853
IC855 (1/4)
SENSOR AMP
IC854
IC853 (1/2)
BUFFER
C872
R898
LPF
IC855 (1/4)
COMPARATOR
Q864, 865
0 3.2V
IC855
C873
R890
LPF
IC853 (1/2)
BUFFER
Q851 (TALLY)
Q866
LED DRIVE
EVF 4.9V
CN852
CN851
MODE CONTROL (VC-177)
HI SO
HI XSCK
XCS EVF D/A
HI SI
(SEE PAGE 3-20)
IC857
COUNTER
SENSOR OUT
SENSOR VCC 3.2V
SENSOR IN A
SENSOR IN K
Q991
Q851-855
(SEE PAGE 3-5)
CAMERA/VIDEO (VC-177)
EVF R
EVF G
EVF B
EVF XVD
EVF XHD
POWER (VC-177)
EVF 4.9V
D 4.9V
D 3.2V
EVF 15V
LOOK ON
TALLY
LOOK LEVEL
EVF VD
VCO
EVR 4.9V
HDD
INV CUR RENT
EVF 13.5V
EVF 12.0V
IC852
13.5V/12V REG
Vcc1
(SEE PAGE 4-66)
VC-177 BOARD
CN111
EVF VG
VCO
EVF UNREG
R2070, R2071
CN108
Q870 BUFFER
FP-379 (FLEXIBLE)
(SEE PAGE 4-66)
EVF VG
VCO
EVF UNREG
EVF UNREG (-)
CPC (FOR CHECK)
IC851
DC/AC CONVERTER
Vcc1
Vcc2
PWM COMP
OUTPUT
Q853
DISCHARGE SW
SCP
SCP COMP
CURRENT ERROR AMP
PROTECT DET
TRIANGLE OSC
VREF (2.5V)
CT
SYNC
D852 (1/3)
(SEE PAGE 4-99)
LB-45 BOARD
T801
ND801 BACK LIGHT
Q801 SWITCHING
CN801
CN853
D853
2.5Vp-p
IC851 ④ REC/PB
15Vp-p
IC851 ⑮ REC/PB
0.9Vp-p
CN901 ⑪ REC/PB
CN901 ⑫ REC/PB
3Vp-p
IC904 ㉗ REC/PB
IC901
EVR (D/A CONVERTER)
CN901
LOOK ON
TALLY
VDD A
VDD
D 4.9V
X NTSC
PIXEL
NTSC
PX
SI
XSCK
XCS
SO
BRIGHT
SUB BRT R
SUB BRT B
CONTRAST
SUB CONT R
SUB CONT B
GAMMA
VCO
INV CURRENT
LOOK LEVEL
ADJ
WIDE
BRT
VXO
VCC D
EVF 4.9V
D 4.9V
D 3.2V
EVF 13.5V
EVF 12V
IC902
IC904
D 3.2V
ADJ
WIDE
NTSC
PX
VXO
09

LOR EVF MODEL only)

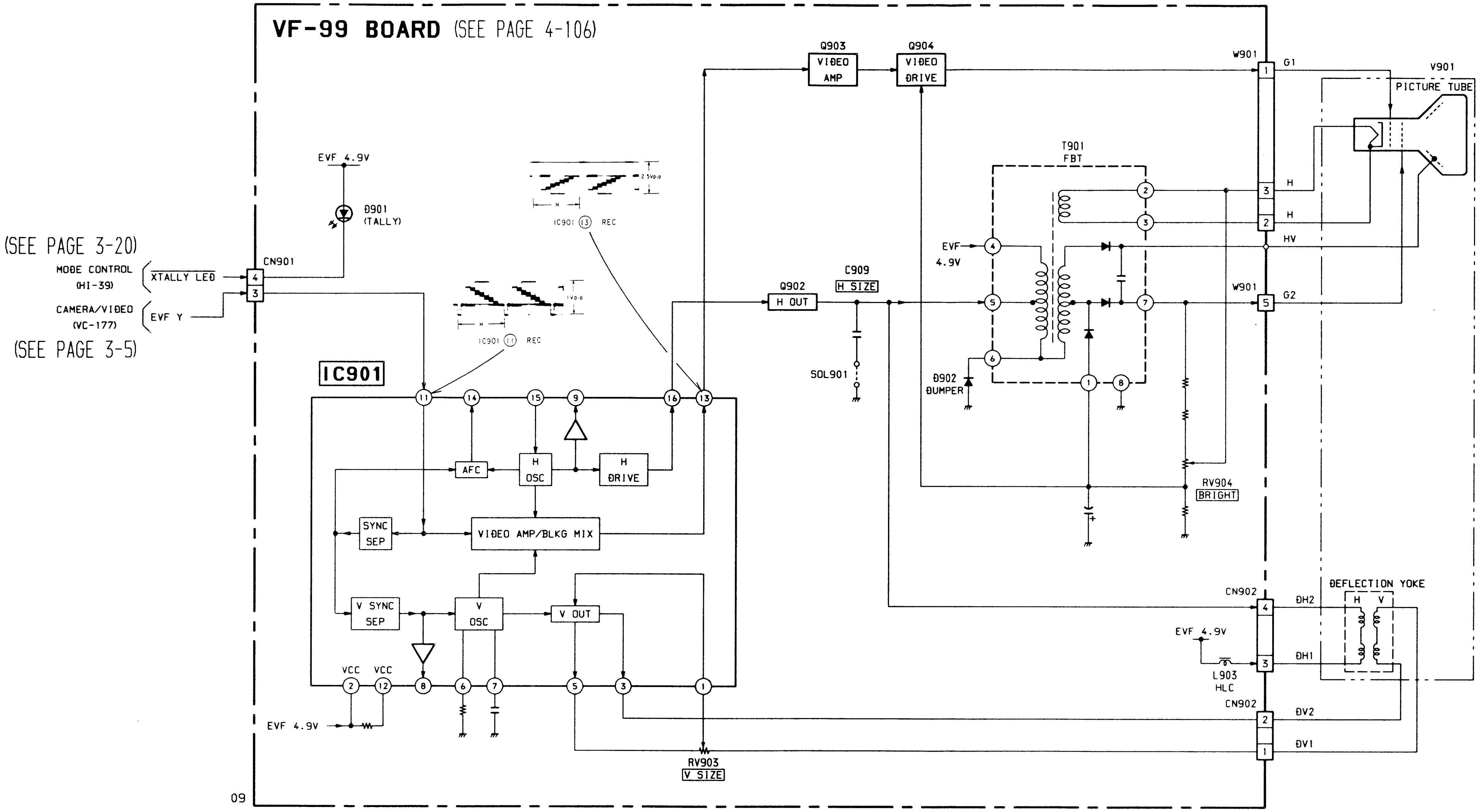
R910E)



BOARD (SEE PAGE 4-99)
IC855
IC854
IC853
IC855 (1/4)
SENSOR AMP
IC853 (1/2)
BUFFER
C872 R898
LPF
COMPARATOR
Q864, 865
C873 R890
D851 (TALLY)
Q866
LED DRIVE
EVF 4.9V
D 3.2V
CN852
SENSOR OUT
SENSOR VCC 3.2V
SENSOR IN A
SENSOR IN K
Q991
D991
Q851-855
IC857
COUNTER
IC852
13.5V/12V REG
EVF 15V
Vcc1
EVF 4.9V
LB-45 BOARD
(SEE PAGE 4-99)
T801
ND801 BACK LIGHT
Q801 SWITCHING
CN801
CN853
D852 (1/3)
D853
IC851
DC/AC CONVERTER
Vcc1
Vcc2
PWM COMP
OUTPUT
SCP
SCP COMP
CURRENT ERROR AMP
PROTECT DET
VREF (2.5V)
TRIANGLE OSC
CT
SYNC
DISCHARGE SW
IC851 (15) REC/PB
15Vp-p
LOOK ON
TALLY
HI SO
HI XSCK
XCS EVF D/A
HI SI
LOOK LEVEL
EVF R
EVF G
EVF B
EVF XVD
EVF XHD
EVF VG
VCO
EVR 4.9V
HBD
INV CUR RENT
EVF 13.5V
EVF 12.0V
EVF 12V
D 4.9V
D 3.2V
CN901
CN901 (11) REC/PB
CN901 (12) REC/PB
0.9Vp-p
VF-96 BOARD
(SEE PAGE 4-101)
IC901
EVR (D/A CONVERTER)
LOOK ON
TALLY
VDD A
VDD
X NTSC
PIXEL
NTSC
PX
BRIGHT
SUB BRT R
SUB BRT B
CONTRAST
SUB CONT R
SUB CONT B
GAMMA
VCO
INV CURRENT
LOOK LEVEL
ADJ
WIDE
BRT
VXO
SI
XSCK
XCS
SO
VCC D
CN901 (10) REC/PB
IC902
BRIGHT
GAMMA CONT
B GAIN
R GAIN
RGB GAIN
R/BRIGHT
B/BRIGHT
GAMMA
SUB CONT B
SUB CONT R
CONTRAST
SUB BRT R
SUB BRT B
VCC1
VCC2
EVF 12V
EVF 4.9V
R IN
G IN
B IN
BF
RGB DRIVER
R OUT
G OUT
B OUT
FRP
SH B
SH R
SH G
IC902 (8) REC/PB
IC902 (10) REC/PB
IC902 (6) REC/PB
IC902 (24) REC/PB
7.2Vp-p
3Vp-p
IC904 (45) REC/PB
REC 2.7Vp-p PB 3.0Vp-p
IC904 (35) REC/PB
IC904 (27) REC/PB
IC904
LCD TIMING GENERATOR
SH1
SH2
SH3
SLPL
XCLP
SYNC
VDD
SLYT
WIDE
PLNT
SLCK
ADJ
NTSC
PX
FRP
EN
HCK1
HCK2
HST1
VCK2
VCK1
VST1
CLR
RPD
CKI
CKO
LPF
D901
VXO
Q901, 902
BUFFER
CN902
LCD902
LCD PANEL
LIQUID CRYSTAL DISPLAY
COM (5.5V)
R
G
B
EN
HCK1
HCK2
HST
VCK2
VCK1
VST
CLR
H VDD
V VDD
RGT
EVF 13.5V

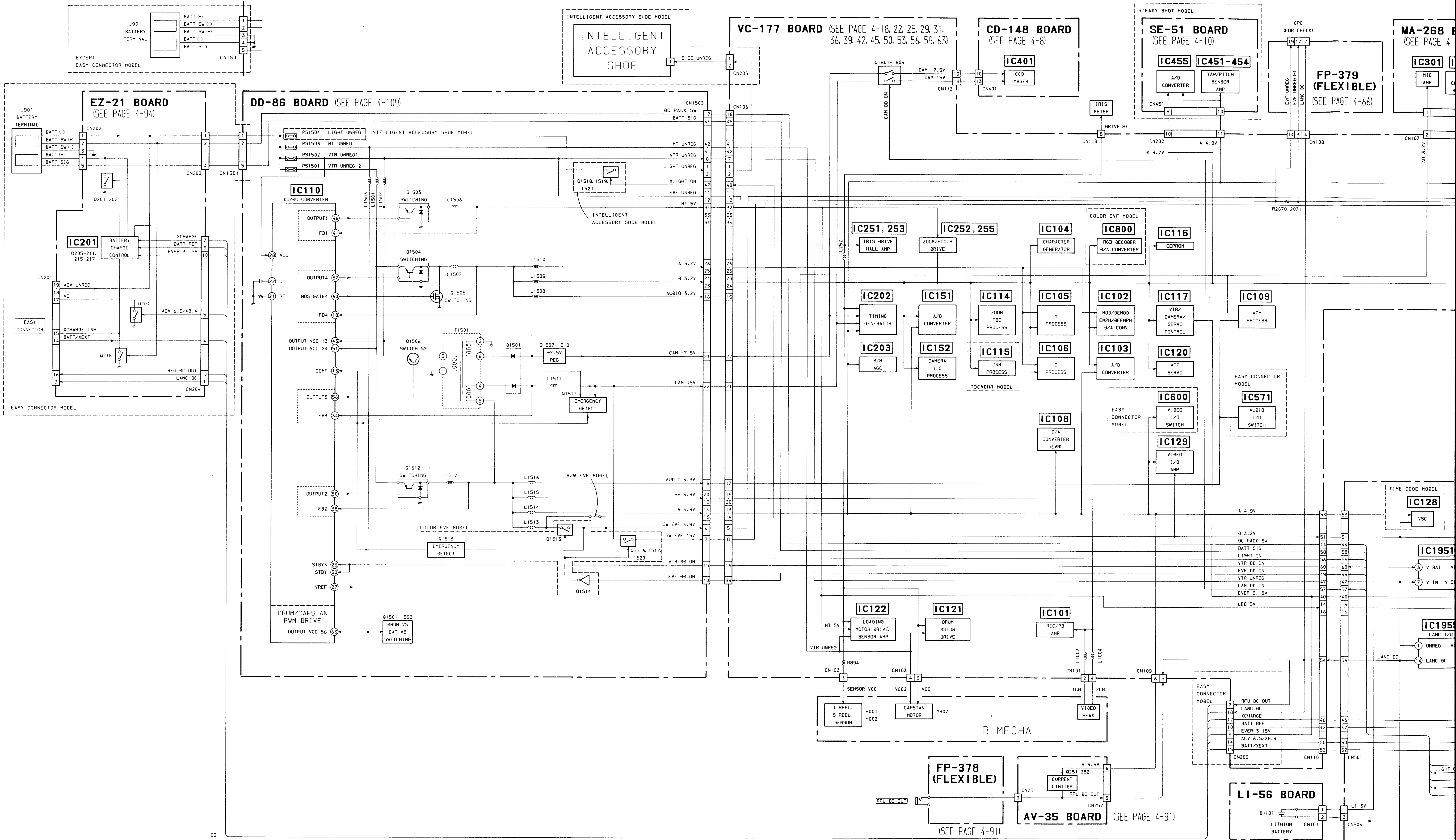
3-8. B/W EVF BLOCK DIAGRAM (B/W EVF MODEL only)

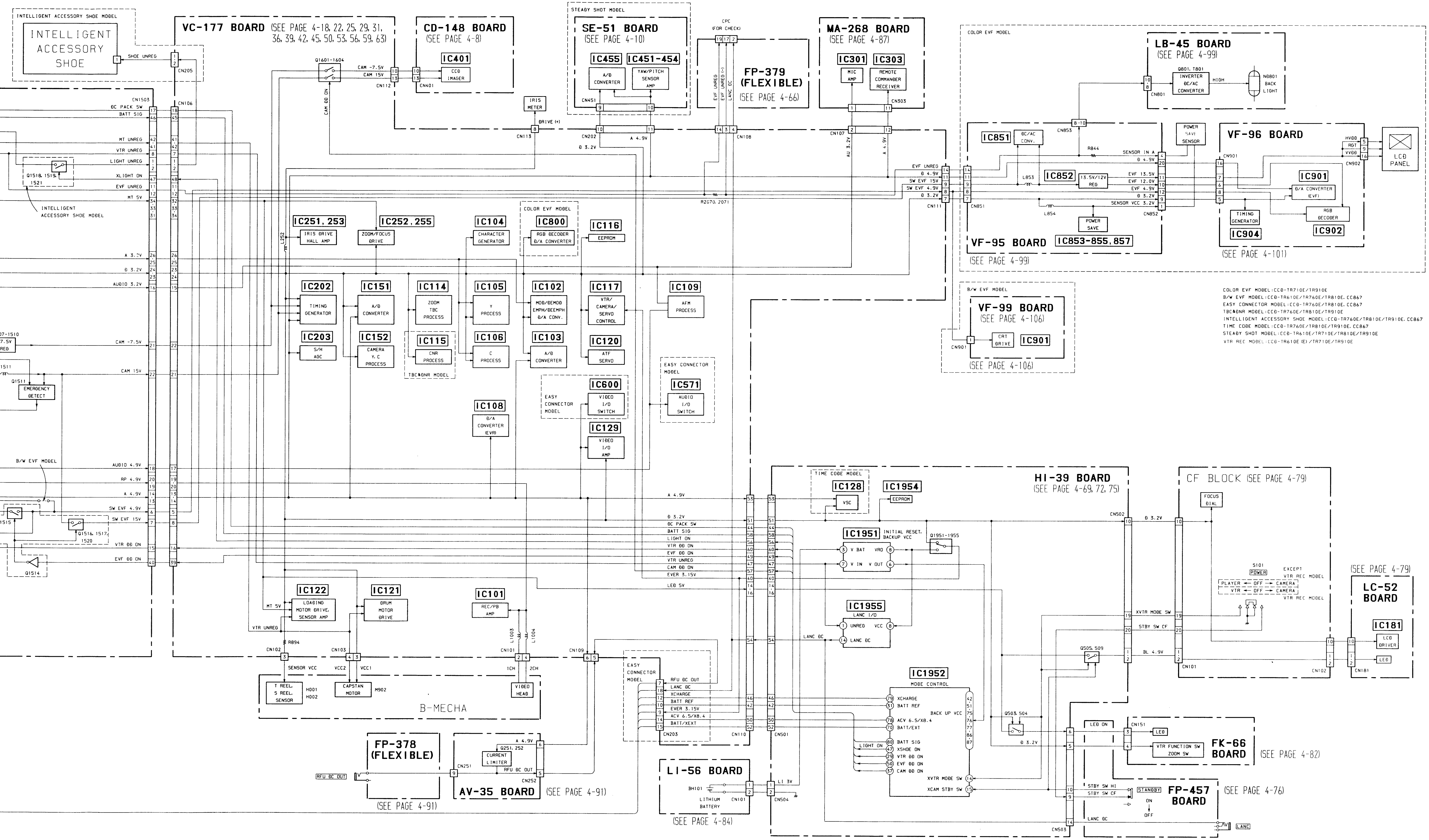
(B/W EVF Model: CCD-TR610E/TR760E/TR810E, CC 867)



VF-99 BOARD (SEE PAGE 4-106)
(SEE PAGE 3-20)
MODE CONTROL (HI-39)
XTALLY LED
CAMERA/VIDEO (VC-177)
EVF Y
(SEE PAGE 3-5)
CN901
EVF 4.9V
D901 (TALLY)
IC901 ⑬ REC
IC901 ⑪ REC
IC901
Q903 VIDEO AMP
Q904 VIDEO DRIVE
Q902 H OUT
C909 H SIZE
SOL901
T901 FBT
EVF 4.9V
D902 DUMPER
RV904 BRIGHT
AFC
H OSC
H DRIVE
SYNC SEP
VIDEO AMP/BLKG MIX
V SYNC SEP
V OSC
V OUT
VCC
VCC
EVF 4.9V
RV903 V SIZE
W901
G1
H
H
HV
G2
V901
PICTURE TUBE
DEFLECTION YOKE
CN902
DH2
DH1
DV2
DV1
EVF 4.9V
L903 HLC
09

3-9. POWER SUPPLY BLOCK DIAGRAM


J901 BATTERY TERMINAL
BATT (+)
BATT SW (+)
BATT SW (-)
BATT (-)
BATT SIG
CN1501
EXCEPT EASY CONNECTOR MODEL
EZ-21 BOARD (SEE PAGE 4-94)
CN202
Q201, 202
IC201
BATTERY CHARGE CONTROL
Q205-211, 215-217
XCHARGE
BATT REF
EVER 3.15V
CN201
ACV UNREG
VC
Q204
ACV 6.5/X8.4
EASY CONNECTOR
XCHARGE INH
BATT/XEXT
Q218
RFU DC OUT
LANC DC
CN203
CN204
EASY CONNECTOR MODEL
INTELLIGENT ACCESSORY SHOE MODEL
INTELLIGENT ACCESSORY SHOE
SHOE UNREG
CN205
DD-86 BOARD (SEE PAGE 4-109)
CN1503
DC PACK SW
BATT SIG
PS1504 LIGHT UNREG
PS1503 MT UNREG
PS1502 VTR UNREG1
PS1501 VTR UNREG 2
MT UNREG
VTR UNREG
LIGHT UNREG
XLIGHT ON
EVF UNREG
MT 5V
Q1518, 1519, 1521
INTELLIGENT ACCESSORY SHOE MODEL
IC110
DC/DC CONVERTER
OUTPUT1
FB1
VCC
CT
RT
OUTPUT4
MOS GATE4
FB4
OUTPUT VCC 13
OUTPUT VCC 24
COMP
OUTPUT3
FB3
OUTPUT2
FB2
STBY3
STBY
VREF
DRUM/CAPSTAN PWM DRIVE
OUTPUT VCC 56
L1503
L1501
L1502
Q1503 SWITCHING
L1506
Q1504 SWITCHING
L1507
Q1505 SWITCHING
L1510
L1509
L1508
A 3.2V
D 3.2V
AUDIO 3.2V
T1501
Q1506 SWITCHING
D1501
Q1507-1510
-7.5V REG
L1511
Q1511
EMERGENCY DETECT
CAM -7.5V
CAM 15V
Q1512 SWITCHING
L1512
L1516
L1515
L1514
L1513
B/W EVF MODEL
AUDIO 4.9V
RP 4.9V
A 4.9V
SW EVF 4.9V
SW EVF 15V
VTR DD ON
EVF DD ON
COLOR EVF MODEL
Q1513 EMERGENCY DETECT
Q1515
Q1516, 1517, 1520
Q1514
Q1501, 1502 DRUM VS CAP VS SWITCHING
VC-177 BOARD (SEE PAGE 4-18, 22, 25, 29, 31, 36, 39, 42, 45, 50, 53, 56, 59, 63)
CN106
Q1601-1604
CAM -7.5V
CAM 15V
CN112
CAM DD ON
CD-148 BOARD (SEE PAGE 4-8)
IC401
CCD IMAGER
CN401
IRIS METER
DRIVE (+)
CN113
STEADY SHOT MODEL
SE-51 BOARD (SEE PAGE 4-10)
IC455
A/D CONVERTER
IC451-454
YAW/PITCH SENSOR AMP
CN451
CN202
A 4.9V
D 3.2V
CPC (FOR CHECK)
EVF UNREG
EVF UNREG (-)
LANC DC
FP-379 (FLEXIBLE) (SEE PAGE 4-66)
CN108
R2070, 2071
MA-268
IC301
MIC AMP
CN107
AU 3.2V
L252
IC251, 253
IRIS DRIVE HALL AMP
IC252, 255
ZOOM/FOCUS DRIVE
IC104
CHARACTER GENERATOR
COLOR EVF MODEL
IC800
RGB DECODER D/A CONVERTER
IC116
EEPROM
IC202
TIMING GENERATOR
IC151
A/D CONVERTER
IC114
ZOOM TBC PROCESS
IC105
Y PROCESS
IC102
MOD/DEMOD EMPH/DEEMPH D/A CONV.
IC117
VTR/CAMERA/SERVO CONTROL
IC109
AFM PROCESS
IC203
S/H AGC
IC152
CAMERA Y, C PROCESS
IC115
CNR PROCESS
TBC&DNR MODEL
IC106
C PROCESS
IC103
A/D CONVERTER
IC120
ATF SERVO
EASY CONNECTOR MODEL
IC600
VIDEO I/O SWITCH
IC571
AUDIO I/O SWITCH
IC108
D/A CONVERTER (EVF)
IC129
VIDEO I/O AMP
TIME CODE MODEL
IC128
VSC
A 4.9V
D 3.2V
DC PACK SW
BATT SIG
LIGHT ON
VTR DD ON
EVF DD ON
VTR UNREG
CAM DD ON
EVER 3.15V
LED 5V
IC1951
V BAT
V IN
IC1955
LANC I/O
UNREG
LANC DC
IC122
LOADING MOTOR DRIVE, SENSOR AMP
IC121
DRUM MOTOR DRIVE
IC101
REC/PB AMP
L1003
L1004
MT 5V
VTR UNREG
R894
CN102
CN103
CN101
CN109
SENSOR VCC
VCC2
VCC1
1CH
2CH
T REEL, S REEL, SENSOR
H001
H002
CAPSTAN MOTOR
M902
VIDEO HEAD
B-MECHA
EASY CONNECTOR MODEL
RFU DC OUT
LANC DC
XCHARGE
BATT REF
EVER 3.15V
ACV 6.5/X8.4
BATT/XEXT
CN203
CN110
CN501
FP-378 (FLEXIBLE) (SEE PAGE 4-91)
RFU DC OUT
AV-35 BOARD (SEE PAGE 4-91)
A 4.9V
Q251, 252
CURRENT LIMITER
CN251
CN252
LI-56 BOARD (SEE PAGE 4-84)
BH101
LITHIUM BATTERY
CN101
LI 3V
CN504
LIGHT
09

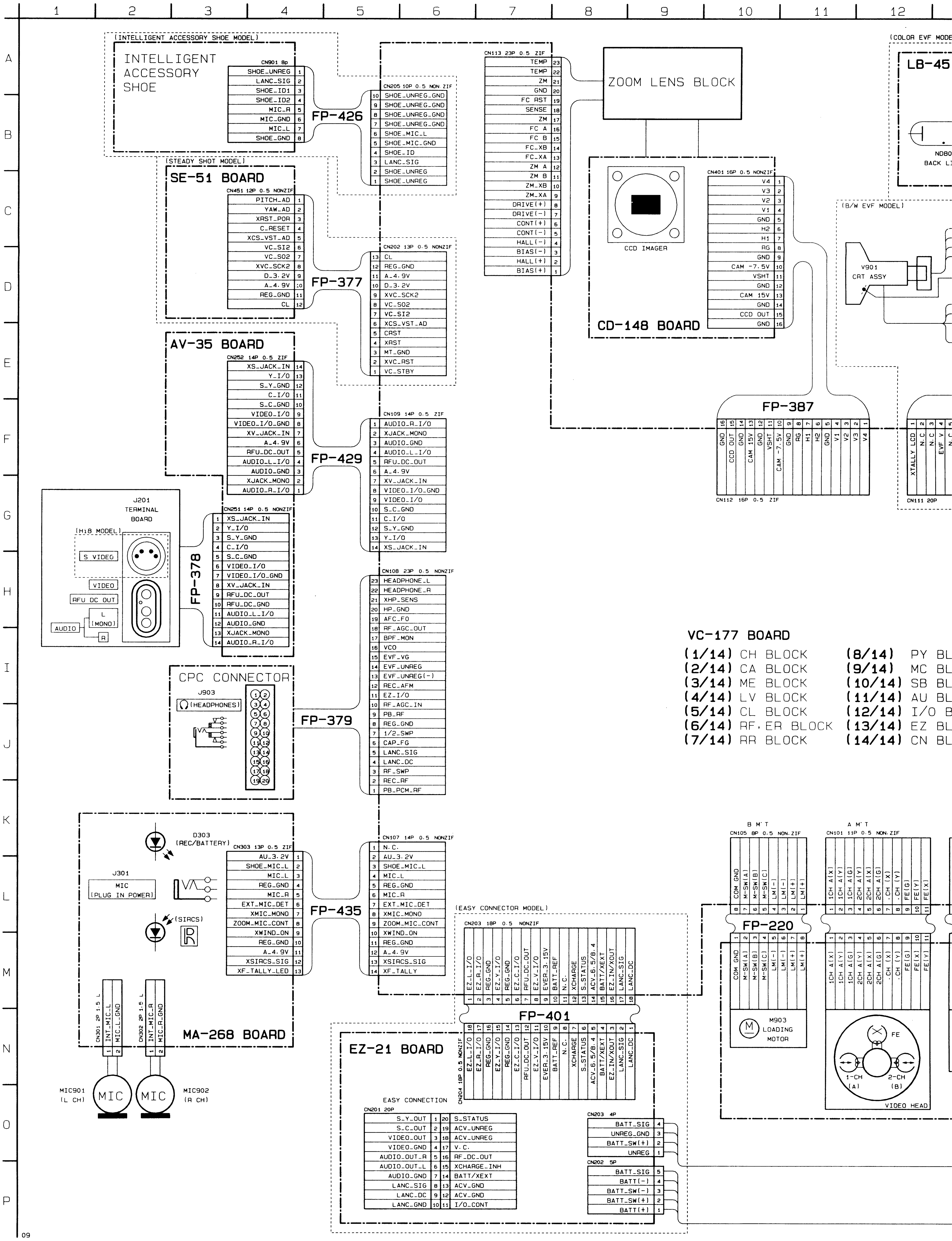

INTELLIGENT ACCESSORY SHOE MODEL
INTELLIGENT ACCESSORY SHOE
SHOE UNREG
VC-177 BOARD (SEE PAGE 4-18, 22, 25, 29, 31, 36, 39, 42, 45, 50, 53, 56, 59, 63)
CD-148 BOARD (SEE PAGE 4-8)
IC401
CCD IMAGER
STEADY SHOT MODEL
SE-51 BOARD (SEE PAGE 4-10)
IC455
A/D CONVERTER
IC451-454
YAW/PITCH SENSOR AMP
CPC (FOR CHECK)
FP-379 (FLEXIBLE) (SEE PAGE 4-66)
MA-268 BOARD (SEE PAGE 4-87)
IC301
MIC AMP
IC303
REMOTE COMMANDER RECEIVER
COLOR EVF MODEL
LB-45 BOARD (SEE PAGE 4-99)
Q801, T801 INVERTER DC/AC CONVERTER
HIGH
ND801 BACK LIGHT
IC851
DC/AC CONV.
POWER SAVE SENSOR
VF-96 BOARD
LCD PANEL
IC852
13.5V/12V REG
POWER SAVE
VF-95 BOARD
IC853-855, 857
(SEE PAGE 4-99)
IC901
D/A CONVERTER (EVF)
RGB DECODER
IC902
TIMING GENERATOR
IC904
(SEE PAGE 4-101)
B/W EVF MODEL
VF-99 BOARD (SEE PAGE 4-106)
CRT DRIVE
IC901
(SEE PAGE 4-106)
IRIS METER
DRIVE (+)
Q1601-1604
CAM -7.5V
CAM 15V
CAM DD ON
IC251, 253
IRIS DRIVE HALL AMP
IC252, 255
ZOOM/FOCUS DRIVE
IC104
CHARACTER GENERATOR
IC800
RGB DECODER D/A CONVERTER
IC116
EEPROM
IC202
TIMING GENERATOR
IC151
A/D CONVERTER
IC114
ZOOM TBC PROCESS
IC105
Y PROCESS
IC102
MOD/DEMOD EMPH/DEEMPH D/A CONV.
IC117
VTR/ CAMERA/ SERVO CONTROL
IC109
AFM PROCESS
IC203
S/H AGC
IC152
CAMERA Y, C PROCESS
IC115
CNR PROCESS
TBC&DNR MODEL
IC106
C PROCESS
IC103
A/D CONVERTER
IC120
ATF SERVO
EASY CONNECTOR MODEL
IC600
VIDEO I/O SWITCH
IC571
AUDIO I/O SWITCH
IC108
D/A CONVERTER (EVR)
IC129
VIDEO I/O AMP
Q1518, 1519, 1521
INTELLIGENT ACCESSORY SHOE MODEL
EMERGENCY DETECT
B/W EVF MODEL
Q1516, 1517, 1520
Q1514
IC122
LOADING MOTOR DRIVE, SENSOR AMP
IC121
DRUM MOTOR DRIVE
IC101
REC/PB AMP
MT 5V
VTR UNREG
R894
SENSOR VCC
VCC2
VCC1
1CH
2CH
T REEL, S REEL SENSOR
H001 H002
CAPSTAN MOTOR
M902
VIDEO HEAD
B-MECHA
FP-378 (FLEXIBLE)
RFU DC OUT
(SEE PAGE 4-91)
Q251, 252 CURRENT LIMITER
AV-35 BOARD (SEE PAGE 4-91)
EASY CONNECTOR MODEL
RFU DC OUT
LANC DC
XCHARGE
BATT REF
EVER 3.15V
ACV 6.5/X8.4
BATT/XEXT
LI-56 BOARD
LITHIUM BATTERY
(SEE PAGE 4-84)
HI-39 BOARD (SEE PAGE 4-69, 72, 75)
TIME CODE MODEL
IC128
VSC
IC1954
EEPROM
IC1951
INITIAL RESET, BACKUP VCC
Q1951-1955
IC1955
LANC I/O
UNREG
LANC DC
IC1952
MODE CONTROL
XCHARGE
BATT REF
BACK UP VCC
ACV 6.5/X8.4
BATT/EXT
BATT SIG
XSHOE ON
VTR DD ON
EVF DD ON
CAM DD ON
XVTR MODE SW
XCAM STBY SW
CF BLOCK (SEE PAGE 4-79)
FOCUS DIAL
S101 POWER
PLAYER OFF CAMERA
VTR OFF CAMERA
EXCEPT VTR REC MODEL
VTR REC MODEL
(SEE PAGE 4-79)
LC-52 BOARD
IC181
LCD DRIVER
LED
Q505, 509
Q503, 504
LED ON
FK-66 BOARD (SEE PAGE 4-82)
VTR FUNCTION SW ZOOM SW
FP-457 BOARD (SEE PAGE 4-76)
STANDBY
ON OFF
LANC

COLOR EVF MODEL:CCD-TR710E/TR910E
B/W EVF MODEL:CCD-TR610E/TR760E/TR810E, CC867
EASY CONNECTOR MODEL:CCD-TR760E/TR810E, CC867
TBC&DNR MODEL:CCD-TR760E/TR810E/TR910E
INTELLIGENT ACCESSORY SHOE MODEL:CCD-TR760E/TR810E/TR910E, CC867
TIME CODE MODEL:CCD-TR760E/TR810E/TR910E, CC867
STEADY SHOT MODEL:CCD-TR610E/TR710E/TR810E/TR910E
VTR REC MODEL:CCD-TR610E (E) /TR710E/TR910E

SECTION 4

PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAM



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A
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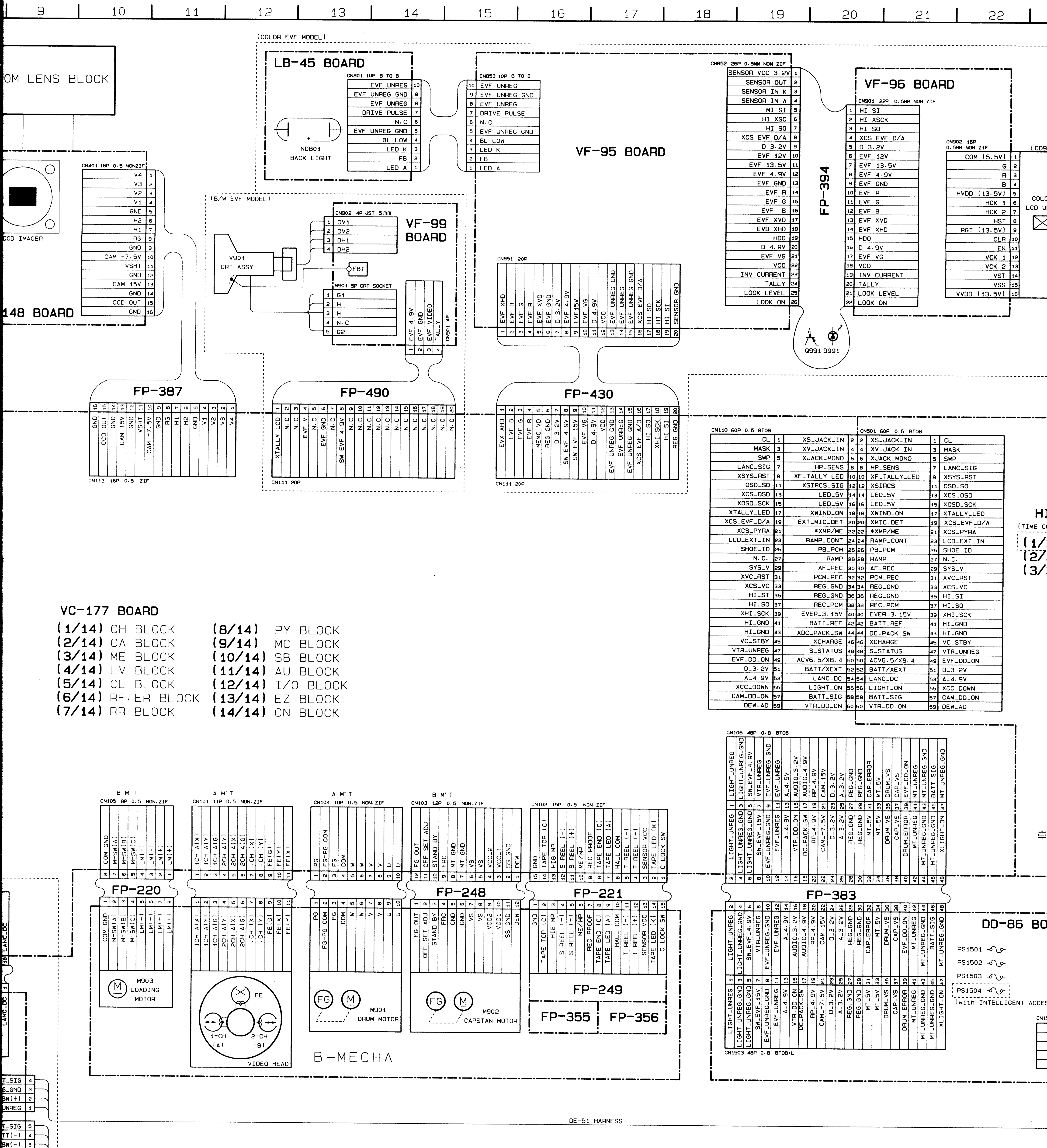
H
I
J
K
L
M
N
O
P
(INTELLIGENT ACCESSORY SHOE MODEL)
INTELLIGENT ACCESSORY SHOE
CN901 8P
1 SHOE_UNREG
2 LANC_SIG
3 SHOE_ID1
4 SHOE_ID2
5 MIC_R
6 MIC_GND
7 MIC_L
8 SHOE_GND
FP-426
CN205 10P 0.5 NON ZIF
10 SHOE_UNREG_GND
9 SHOE_UNREG_GND
8 SHOE_UNREG_GND
7 SHOE_UNREG_GND
6 SHOE_MIC_L
5 SHOE_MIC_GND
4 SHOE_ID
3 LANC_SIG
2 SHOE_UNREG
1 SHOE_UNREG
(STEADY SHOT MODEL)
SE-51 BOARD
CN451 12P 0.5 NONZIF
1 PITCH_AD
2 YAW_AD
3 XRST_POR
4 C_RESET
5 XCS_VST_AD
6 VC_SI2
7 VC_SO2
8 XVC_SCK2
9 D_3.2V
10 A_4.9V
11 REG_GND
12 CL
FP-377
CN202 13P 0.5 NONZIF
13 CL
12 REG_GND
11 A_4.9V
10 D_3.2V
9 XVC_SCK2
8 VC_SO2
7 VC_SI2
6 XCS_VST_AD
5 CRST
4 XRST
3 MT_GND
2 XVC_RST
1 VC_STBY
AV-35 BOARD
CN252 14P 0.5 ZIF
14 XS_JACK_IN
13 Y_I/O
12 S_Y_GND
11 C_I/O
10 S_C_GND
9 VIDEO_I/O
8 VIDEO_I/O_GND
7 XV_JACK_IN
6 A_4.9V
5 RFU_DC_OUT
4 AUDIO_L_I/O
3 AUDIO_GND
2 XJACK_MONO
1 AUDIO_R_I/O
FP-429
CN109 14P 0.5 ZIF
1 AUDIO_R_I/O
2 XJACK_MONO
3 AUDIO_GND
4 AUDIO_L_I/O
5 RFU_DC_OUT
6 A_4.9V
7 XV_JACK_IN
8 VIDEO_I/O_GND
9 VIDEO_I/O
10 S_C_GND
11 C_I/O
12 S_Y_GND
13 Y_I/O
14 XS_JACK_IN
J201 TERMINAL BOARD
(Hi8 MODEL)
S VIDEO
VIDEO
RFU DC OUT
L (MONO)
AUDIO
R
FP-378
CN251 14P 0.5 NONZIF
1 XS_JACK_IN
2 Y_I/O
3 S_Y_GND
4 C_I/O
5 S_C_GND
6 VIDEO_I/O
7 VIDEO_I/O_GND
8 XV_JACK_IN
9 RFU_DC_OUT
10 RFU_DC_GND
11 AUDIO_L_I/O
12 AUDIO_GND
13 XJACK_MONO
14 AUDIO_R_I/O
CPC CONNECTOR
J903
(HEADPHONES)
FP-379
CN108 23P 0.5 NONZIF
23 HEADPHONE_L
22 HEADPHONE_R
21 XHP_SENS
20 HP_GND
19 AFC_FO
18 RF_AGC_OUT
17 BPF_MON
16 VCO
15 EVF_VG
14 EVF_UNREG
13 EVF_UNREG(-)
12 REC_AFM
11 EZ_I/O
10 RF_AGC_IN
9 PB_RF
8 REG_GND
7 1/2_SWP
6 CAP_FG
5 LANC_SIG
4 LANC_DC
3 RF_SWP
2 REC_RF
1 PB_PCM_RF
D303 (REC/BATTERY)
CN303 13P 0.5 ZIF
1 AU_3.2V
2 SHOE_MIC_L
3 MIC_L
4 REG_GND
5 MIC_R
6 EXT_MIC_DET
7 XMIC_MONO
8 ZOOM_MIC_CONT
9 XWIND_ON
10 REG_GND
11 A_4.9V
12 XSIRCS_SIG
13 XF_TALLY_LED
J301 MIC (PLUG IN POWER)
(SIRCS)
FP-435
CN107 14P 0.5 NONZIF
1 N.C.
2 AU_3.2V
3 SHOE_MIC_L
4 MIC_L
5 REG_GND
6 MIC_R
7 EXT_MIC_DET
8 XMIC_MONO
9 ZOOM_MIC_CONT
10 XWIND_ON
11 REG_GND
12 A_4.9V
13 XSIRCS_SIG
14 XF_TALLY
CN301 2P 1.5 L
1 INT_MIC_L
2 MIC_L_GND
CN302 2P 1.5 L
1 INT_MIC_R
2 MIC_R_GND
MA-268 BOARD
MIC901 (L CH)
MIC
MIC
MIC902 (R CH)
(EASY CONNECTOR MODEL)
CN203 18P 0.5 NONZIF
1 EZ_L_I/O
2 EZ_R_I/O
3 REG_GND
4 EZ_Y_I/O
5 REG_GND
6 EZ_C_I/O
7 RFU_DC_OUT
8 EZ_V_I/O
9 EVER_3.15V
10 BATT_REF
11 N.C.
12 XCHARGE
13 S_STATUS
14 ACV_6.5/8.4
15 BATT/XEXT
16 EZ_IN/XOUT
17 LANC_SIG
18 LANC_DC
FP-401
EZ-21 BOARD
CN204 18P 0.5 NONZIF
18 EZ_L_I/O
17 EZ_R_I/O
16 REG_GND
15 EZ_Y_I/O
14 REG_GND
13 EZ_C_I/O
12 RFU_DC_OUT
11 EZ_V_I/O
10 EVER_3.15V
9 BATT_REF
8 N.C.
7 XCHARGE
6 S_STATUS
5 ACV_6.5/8.4
4 BATT/XEXT
3 EZ_IN/XOUT
2 LANC_SIG
1 LANC_DC
EASY CONNECTION
CN201 20P
1 S_Y_OUT
2 S_C_OUT
3 VIDEO_OUT
4 VIDEO_GND
5 AUDIO_OUT_R
6 AUDIO_OUT_L
7 AUDIO_GND
8 LANC_SIG
9 LANC_DC
10 LANC_GND
20 S_STATUS
19 ACV_UNREG
18 ACV_UNREG
17 V.C.
16 RF_DC_OUT
15 XCHARGE_INH
14 BATT/XEXT
13 ACV_GND
12 ACV_GND
11 I/O_CONT
CN203 4P
4 BATT_SIG
3 UNREG_GND
2 BATT_SW(+)
1 UNREG
CN202 5P
5 BATT_SIG
4 BATT(-)
3 BATT_SW(-)
2 BATT_SW(+)
1 BATT(+)
CN113 23P 0.5 ZIF
23 TEMP
22 TEMP
21 ZM
20 GND
19 FC RST
18 SENSE
17 ZM
16 FC A
15 FC B
14 FC_XB
13 FC_XA
12 ZM A
11 ZM B
10 ZM_XB
9 ZM_XA
8 DRIVE(+)
7 DRIVE(-)
6 CONT(+)
5 CONT(-)
4 HALL(-)
3 BIAS(-)
2 HALL(+)
1 BIAS(+)
ZOOM LENS BLOCK
CCD IMAGER
CD-148 BOARD
CN401 16P 0.5 NONZIF
1 V4
2 V3
3 V2
4 V1
5 GND
6 H2
7 H1
8 RG
9 GND
10 CAM -7.5V
11 VSHT
12 GND
13 CAM 15V
14 GND
15 CCD OUT
16 GND
FP-387
16 GND
15 CCD OUT
14 GND
13 CAM 15V
12 GND
11 VSHT
10 CAM -7.5V
9 GND
8 RG
7 H1
6 H2
5 GND
4 V1
3 V2
2 V3
1 V4
CN112 16P 0.5 ZIF
(COLOR EVF MODEL)
LB-45
ND80
BACK L
(B/W EVF MODEL)
V901 CRT ASSY
1 XTALLY LCD
2 N.C
3 N.C
4 EVF V
CN111 20P
VC-177 BOARD
(1/14) CH BLOCK
(2/14) CA BLOCK
(3/14) ME BLOCK
(4/14) LV BLOCK
(5/14) CL BLOCK
(6/14) RF, ER BLOCK
(7/14) RR BLOCK
(8/14) PY BL
(9/14) MC BL
(10/14) SB BL
(11/14) AU BL
(12/14) I/O B
(13/14) EZ BL
(14/14) CN BL
B M'T
CN105 8P 0.5 NON.ZIF
8 COM_GND
7 M-SW(A)
6 M-SW(B)
5 M-SW(C)
4 LM(-)
3 LM(-)
2 LM(+)
1 LM(+)
A M'T
CN101 11P 0.5 NON.ZIF
1 1CH A(X)
2 1CH A(Y)
3 1CH A(G)
4 2CH A(Y)
5 2CH A(X)
6 2CH A(G)
7 .CH (X)
8 .CH (Y)
9 FE(G)
10 FE(Y)
11 FE(X)
FP-220
M903 LOADING MOTOR
FE
1-CH (A)
2-CH (B)
VIDEO HEAD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11
12
13
14
15
16
17
18
19
20
21
22
(COLOR EVF MODEL)
OM LENS BLOCK
LB-45 BOARD
CN801 10P B TO B
EVF UNREG
EVF UNREG GND
DRIVE PULSE
N.C
BL LOW
LED K
FB
LED A
ND801
BACK LIGHT
CN853 10P B TO B
VF-95 BOARD
CN852 26P 0.5MM NON ZIF
SENSOR VCC 3.2V
SENSOR OUT
SENSOR IN K
SENSOR IN A
MI SI
HI XSC
HI SO
XCS EVF D/A
D 3.2V
EVF 12V
EVF 13.5V
EVF 4.9V
EVF GND
EVF R
EVF G
EVF B
EVF XVD
EVD XHD
HDO
D 4.9V
EVF VG
VCO
INV CURRENT
TALLY
LOOK LEVEL
LOOK ON
FP-394
VF-96 BOARD
CN901 22P 0.5MM NON ZIF
CN902 16P 0.5MM NON ZIF
COM (5.5V)
HVDD (13.5V)
HCK 1
HCK 2
HST
RGT (13.5V)
CLR
EN
VCK 1
VCK 2
VST
VSS
VVDD (13.5V)
COLO
LCD U
LCD9
Q991 D991
CN401 16P 0.5 NONZIF
V4
V3
V2
V1
GND
H2
H1
RG
CAM -7.5V
VSHT
CAM 15V
CCD OUT
CCD IMAGER
148 BOARD
(B/W EVF MODEL)
CN902 4P JST 5mm
DV1
DV2
DH1
DH2
VF-99
BOARD
V901
CRT ASSY
FBT
W901 5P CRT SOCKET
G1
H
N.C
G2
CN901 4P
EVF 4.9V
EVF GND
EVF VIDEO
TALLY
CN851 20P
FP-387
CN112 16P 0.5 ZIF
FP-490
CN111 20P
XTALLY LCD
SW EVF 4.9V
FP-430
EVX XHD
MEMO VD
REG GND
SW EVF 15V
XCS EVF A/D
XHI SCK
HI SI
CN110 60P 0.5 BTOB
CN501 60P 0.5 BTOB
CL
MASK
SWP
LANC_SIG
XSYS_RST
OSD_SO
XCS_OSD
XOSD_SCK
XTALLY_LED
XCS_EVF_D/A
XCS_PYRA
LCD_EXT_IN
SHOE_ID
N.C.
SYS_V
XVC_RST
XCS_VC
HI_SI
HI_SO
XHI_SCK
HI_GND
VC_STBY
VTR_UNREG
EVF_DD_ON
D_3.2V
A_4.9V
XCC_DOWN
CAM_DD_ON
DEW_AD
XS_JACK_IN
XV_JACK_IN
XJACK_MONO
HP_SENS
XF_TALLY_LED
XSIRCS_SIG
LED_5V
XWIND_ON
EXT_MIC_DET
*XMP/ME
RAMP_CONT
PB_PCM
RAMP
AF_REC
PCM_REC
REG_GND
REC_PCM
EVER_3.15V
BATT_REF
XDC_PACK_SW
XCHARGE
S_STATUS
ACV6.5/X8.4
BATT/XEXT
LANC_DC
LIGHT_ON
BATT_SIG
VTR_DD_ON
HI
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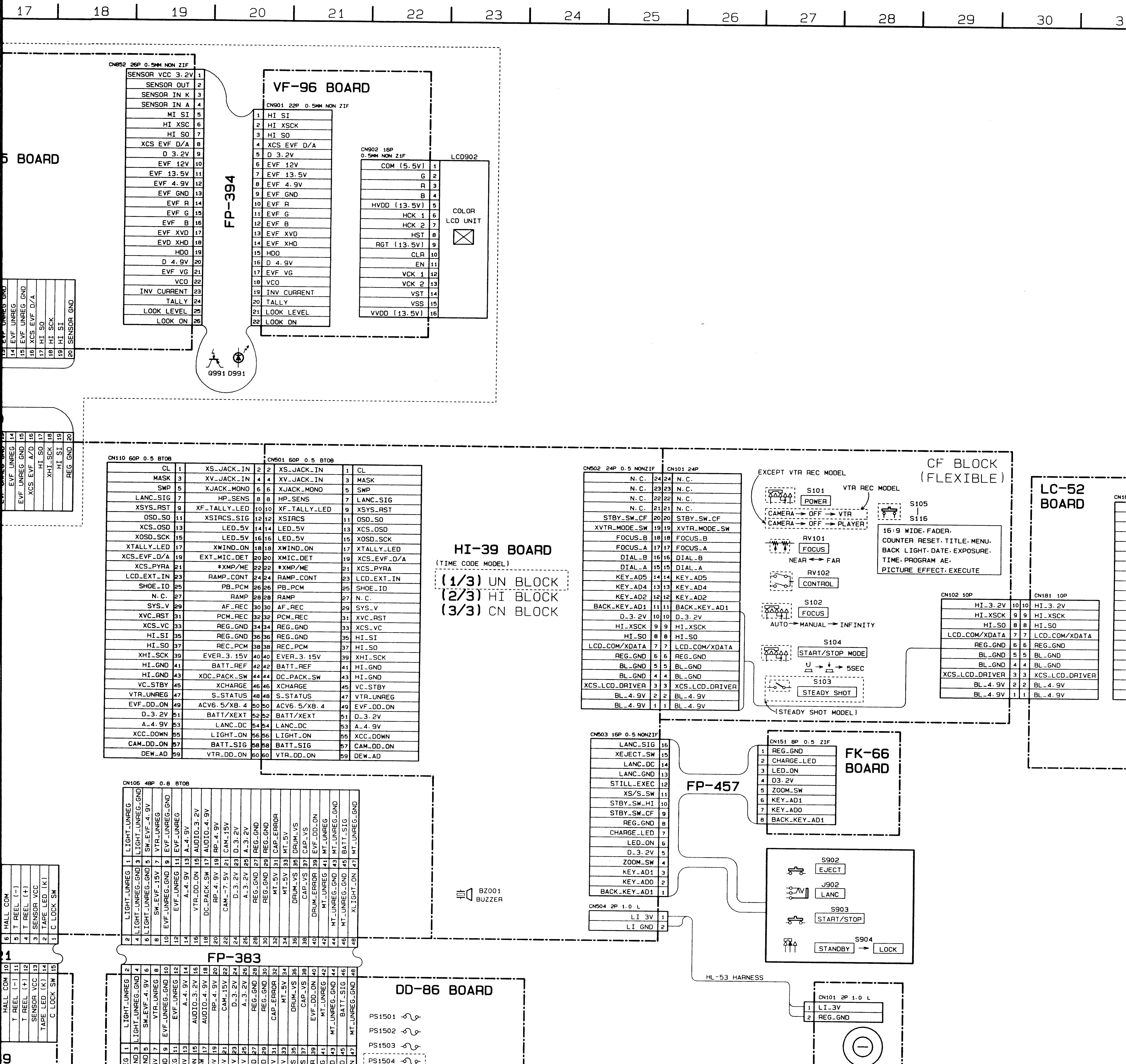
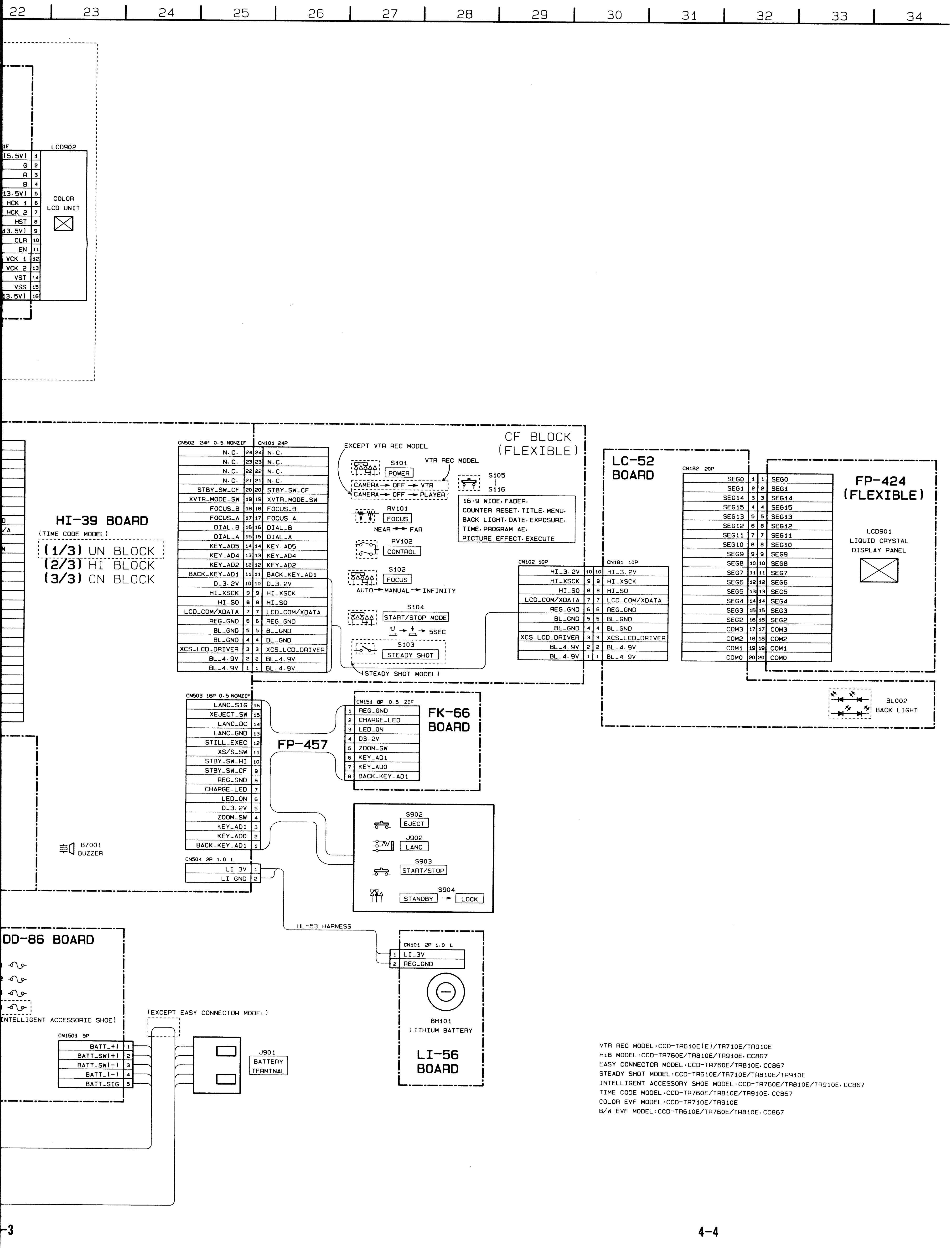
VC-177 BOARD
(1/14) CH BLOCK
(2/14) CA BLOCK
(3/14) ME BLOCK
(4/14) LV BLOCK
(5/14) CL BLOCK
(6/14) RF, ER BLOCK
(7/14) RR BLOCK
(8/14) PY BLOCK
(9/14) MC BLOCK
(10/14) SB BLOCK
(11/14) AU BLOCK
(12/14) I/O BLOCK
(13/14) EZ BLOCK
(14/14) CN BLOCK
CN106 48P 0.8 BTOB
LIGHT_UNREG
LIGHT_UNREG_GND
SW_EVF_4.9V
VTR_UNREG
EVF_UNREG_GND
EVF_UNREG
A_4.9V
VTR_DD_ON
AUDIO_3.2V
DC_PACK_SW
AUDIO_4.9V
RP_4.9V
CAM_-7.5V
CAM_15V
D_3.2V
A_3.2V
REG_GND
CAP_ERROR
MT_5V
DRUM_VS
CAP_VS
DRUM_ERROR
EVF_DD_ON
MT_UNREG
MT_UNREG_GND
BATT_SIG
XLIGHT_ON
FP-383
CN1503 48P 0.8 BTOB:L
DD-86 BO
PS1501
PS1502
PS1503
PS1504
(with INTELLIGENT ACCES
CN1
B M'T
CN105 8P 0.5 NON.ZIF
COM GND
M-SW(A)
M-SW(B)
M-SW(C)
LM(-)
LM(+)
FP-220
M903
LOADING
MOTOR
A M'T
CN101 11P 0.5 NON.ZIF
1CH A(X)
1CH A(Y)
1CH A(G)
2CH A(Y)
2CH A(X)
2CH A(G)
CH (X)
CH (Y)
FE(G)
FE(X)
FE(Y)
FE
1-CH
(A)
2-CH
(B)
VIDEO HEAD
A M'T
CN104 10P 0.5 NON.ZIF
PG
FG-PG COM
FG
COM
W
V
U
FG
M
M901
DRUM MOTOR
B M'T
CN103 12P 0.5 NON.ZIF
FG OUT
OFF SET ADJ
STAND BY
FRC
MT GND
VS
VCC_2
VCC_1
SS GND
DEW
FP-248
M902
CAPSTAN MOTOR
CN102 15P 0.5 NON.ZIF
GND
TAPE TOP (C)
HI8 MP
S REEL (-)
S REEL (+)
ME/MP
REC PROOF
TAPE END (C)
TAPE LED (A)
HALL COM
T REEL (-)
T REEL (+)
SENSOR VCC
TAPE LED (K)
C LOCK SW
FP-221
FP-249
FP-355
FP-356
B-MECHA
LANC_DC
T_SIG
S_GND
SW(+)
UNREG
TT(-)
SW(-)
TT(+)
DE-51 HARNESS


17
18
19
20
21
22
23
24
25
26
27
28
29
30
5 BOARD
CN852 26P 0.5MM NON ZIF
VF-96 BOARD
CN901 22P 0.5MM NON ZIF
FP-394
CN902 16P 0.5MM NON ZIF
LCD902
COLOR LCD UNIT
Q991 D991
CN110 60P 0.5 BTOB
CN501 60P 0.5 BTOB
HI-39 BOARD
(TIME CODE MODEL)
(1/3) UN BLOCK
(2/3) HI BLOCK
(3/3) CN BLOCK
CN502 24P 0.5 NONZIF
CN101 24P
CF BLOCK (FLEXIBLE)
EXCEPT VTR REC MODEL
VTR REC MODEL
S101 POWER
CAMERA → OFF → VTR
CAMERA → OFF → PLAYER
S105 | S116
16:9 WIDE, FADER, COUNTER RESET, TITLE, MENU, BACK LIGHT, DATE, EXPOSURE, TIME, PROGRAM AE, PICTURE EFFECT, EXECUTE
RV101 FOCUS
NEAR ↔ FAR
RV102 CONTROL
S102 FOCUS
AUTO → MANUAL → INFINITY
S104 START/STOP MODE
5SEC
S103 STEADY SHOT
(STEADY SHOT MODEL)
LC-52 BOARD
CN102 10P
CN181 10P
CN503 16P 0.5 NONZIF
FP-457
CN151 8P 0.5 ZIF
FK-66 BOARD
S902 EJECT
J902 LANC
S903 START/STOP
S904 STANDBY → LOCK
CN504 2P 1.0 L
HL-53 HARNESS
CN101 2P 1.0 L
BH101 LITHIUM BATTERY
LI-56 BOARD
BZ001 BUZZER
CN106 48P 0.8 BTOB
FP-383
DD-86 BOARD
PS1501
PS1502
PS1503
PS1504
(with INTELLIGENT ACCESSORIE SHOE)
(EXCEPT EASY CONNECTOR MODEL)
CN1501 5P
BATT_(+)
BATT_SW(+)
BATT_SW(-)
BATT_(-)
BATT_SIG
J901 BATTERY TERMINAL
CN1503 48P 0.8 BTOB:L
FP-356

VTR REC MODEL:CCD-TR610
Hi8 MODEL:CCD-TR760E/TR
EASY CONNECTOR MODEL:CC
STEADY SHOT MODEL:CCD-T
INTELLIGENT ACCESSORY S
TIME CODE MODEL:CCD-TR7
COLOR EVF MODEL:CCD-TR7
B/W EVF MODEL:CCD-TR610


22
23
24
25
26
27
28
29
30
31
32
33
34
LCD902
(5.5V)
G
R
B
13.5V)
HCK 1
HCK 2
HST
13.5V)
CLR
EN
VCK 1
VCK 2
VST
VSS
13.5V)
COLOR LCD UNIT
HI-39 BOARD
(TIME CODE MODEL)
(1/3) UN BLOCK
(2/3) HI BLOCK
(3/3) CN BLOCK
CN502 24P 0.5 NONZIF
CN101 24P
N.C.
STBY_SW_CF
XVTR_MODE_SW
FOCUS_B
FOCUS_A
DIAL_B
DIAL_A
KEY_AD5
KEY_AD4
KEY_AD2
BACK_KEY_AD1
D_3.2V
HI_XSCK
HI_SO
LCD_COM/XDATA
REG_GND
BL_GND
XCS_LCD_DRIVER
BL_4.9V
CF BLOCK (FLEXIBLE)
EXCEPT VTR REC MODEL
S101
POWER
VTR REC MODEL
CAMERA → OFF → VTR
CAMERA → OFF → PLAYER
S105 | S116
16:9 WIDE, FADER, COUNTER RESET, TITLE, MENU, BACK LIGHT, DATE, EXPOSURE, TIME, PROGRAM AE, PICTURE EFFECT, EXECUTE
RV101
FOCUS
NEAR ↔ FAR
RV102
CONTROL
S102
FOCUS
AUTO → MANUAL → INFINITY
S104
START/STOP MODE
5SEC
S103
STEADY SHOT
(STEADY SHOT MODEL)
CN102 10P
CN181 10P
HI_3.2V
LC-52 BOARD
CN182 20P
SEG0
SEG1
SEG14
SEG15
SEG13
SEG12
SEG11
SEG10
SEG9
SEG8
SEG7
SEG6
SEG5
SEG4
SEG3
SEG2
COM3
COM2
COM1
COM0
FP-424 (FLEXIBLE)
LCD901
LIQUID CRYSTAL DISPLAY PANEL
BL002
BACK LIGHT
CN503 16P 0.5 NONZIF
LANC_SIG
XEJECT_SW
LANC_DC
LANC_GND
STILL_EXEC
XS/S_SW
STBY_SW_HI
STBY_SW_CF
REG_GND
CHARGE_LED
LED_ON
D_3.2V
ZOOM_SW
KEY_AD1
KEY_AD0
BACK_KEY_AD1
FP-457
CN151 8P 0.5 ZIF
D3.2V
FK-66 BOARD
S902
EJECT
J902
LANC
S903
START/STOP
S904
STANDBY → LOCK
BZ001
BUZZER
CN504 2P 1.0 L
LI 3V
LI GND
HL-53 HARNESS
CN101 2P 1.0 L
LI_3V
REG_GND
BH101
LITHIUM BATTERY
LI-56 BOARD
DD-86 BOARD
INTELLIGENT ACCESSORIE SHOE)
(EXCEPT EASY CONNECTOR MODEL)
CN1501 5P
BATT_(+)
BATT_SW(+)
BATT_SW(-)
BATT_(-)
BATT_SIG
J901
BATTERY TERMINAL

VTR REC MODEL:CCD-TR610E(E)/TR710E/TR910E
Hi8 MODEL:CCD-TR760E/TR810E/TR910E, CC867
EASY CONNECTOR MODEL:CCD-TR760E/TR810E, CC867
STEADY SHOT MODEL:CCD-TR610E/TR710E/TR810E/TR910E
INTELLIGENT ACCESSORY SHOE MODEL:CCD-TR760E/TR810E/TR910E, CC867
TIME CODE MODEL:CCD-TR760E/TR810E/TR910E, CC867
COLOR EVF MODEL:CCD-TR710E/TR910E
B/W EVF MODEL:CCD-TR610E/TR760E/TR810E, CC867

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this , the necessary note is printed in each block.)

- **For printed wiring boards.**
- ▒ : Pattern from the side which enables seeing. (The other layers'patterns are not indicated.)
- Circled numbers refer to waveforms.
- (B) or (F), etc. of capacitors indicate the temperature characteristics.
- Through hole is omited.

* Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component side)	Parts on the parts face side seen from the parts face are indicated.

- **For schematic diagrams.**
- Caution when replacing chip parts. New parts must be attached after removal of chip. Be careful not to heat the minus side of tantalum capacitor, because it is damaged by the heat.
- All resistors are in ohms, 1/4W unless otherwise noted. Chip resistor are 1/16W unless otherwise noted. kΩ : 1000Ω , MΩ : 1000kΩ .
- All capacitors are in μF unless otherwise noted. pF: μμF. 50V or less are not indicated except for electrolytics and tantalums.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ⊡ : nonflammable resistor.
- ▭ : panel designation.
- △ : internal component.
- ▭ : adjustment for repair.
- ━━ : B+ Line.
- ━ ━ ━ : B– Line.
- ⇛ : IN/OUT direction of (+, –) B LINE.
- Circled numbers refer to waveforms.

Note:
The components identi- fied by mark ⚠ or dotted line with mark ⚠ are critical for safty.
Replace only with part number specified.

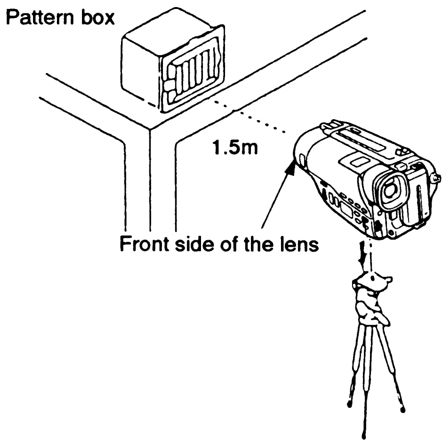
When indicating parts by reference number, please include the board name.

Refer to page 2 as for "Table for difference of functions" of models and classiffication.

- **Measuring conditions voltage value and waveform.**

(CAMERA block)
- The object is color bar chart of pattern box.
- Voltages are dc between ground and measurement points. Readings are taken with a digital multimeter (DC 10MΩ).
- Voltage variations may be noted due to normal production tolerances.

1. Connection


Pattern box
1.5m
Front side of the lens

2. Adjust the distance so that the output waveform of Fig. a and the Fig. b can be obtain.

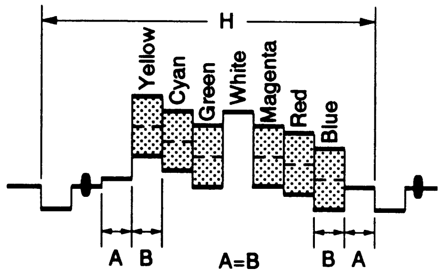

H
Yellow
Cyan
Green
White
Magenta
Red
Blue
A
B
A=B
B
A

Fig. a (Video output terminal output waveform)

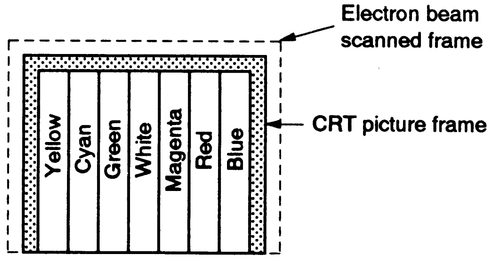
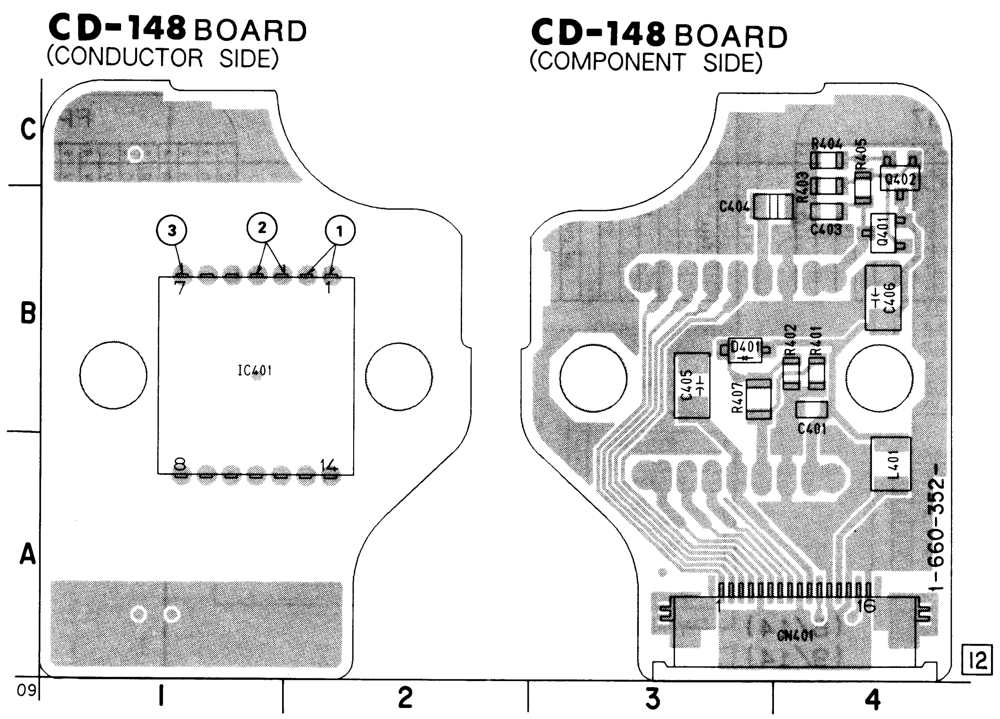

Electron beam scanned frame
CRT picture frame
Yellow
Cyan
Green
White
Magenta
Red
Blue

Fig. b (Picture on monitor TV)

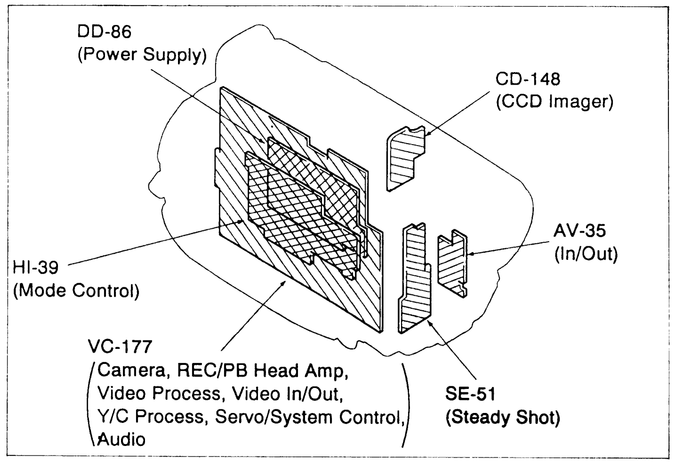
(REC/PB mode)
- Voltages are dc between ground and measurement points.
- Readings are taken with a color-bar signal input.
- Readings are taken with a digital multimeter (DC10MΩ).
- Voltage variations may be noted due to normal production tolerances.

Note: Refer "3-1-4. Connecting the equipments" and "3-1-6. How to set the REC Mode" in VIDEO SECTION ADJUSTMENT. (See page 6-35)

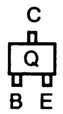
CD-148 (CCD IMAGER) PRINTED WIRING BOARD
— Ref No. CD-148 BOARD: 3,000 series —


CD-148 BOARD
(CONDUCTOR SIDE)
CD-148 BOARD
(COMPONENT SIDE)
C
B
A
1
2
3
4
3
2
1
7
1
IC401
8
14
R404
R405
R403
Q402
C404
C403
Q401
C406
D401
R402
R401
C405
R407
C401
L401
CN401
1
16
1-660-352-
12
09

CD-148	BOARD
C401	B-4
C405	B-3
C406	B-4
CN401	A-4
L401	A-4
Q401	B-4
Q402	C-4
R403	C-4
R404	C-4
R407	B-3


DD-86
(Power Supply)
CD-148
(CCD Imager)
AV-35
(In/Out)
HI-39
(Mode Control)
VC-177
(Camera, REC/PB Head Amp, Video Process, Video In/Out, Y/C Process, Servo/System Control, Audio)
SE-51
(Steady Shot)

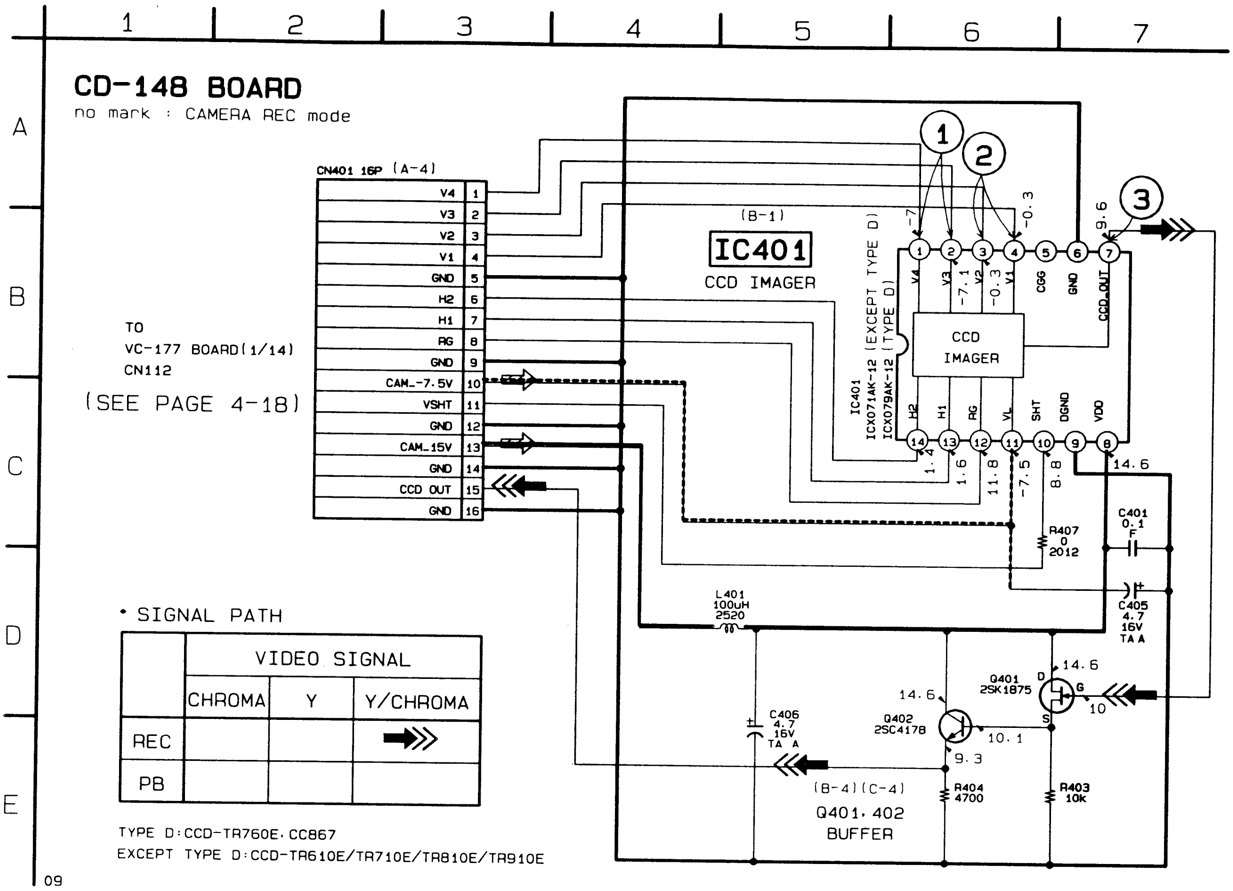
- **For printed wiring boards.**
- This board is a four-layer print board. However, the patterns of layers 2 and 3 have not been included in the diagram.
- Chip transistor



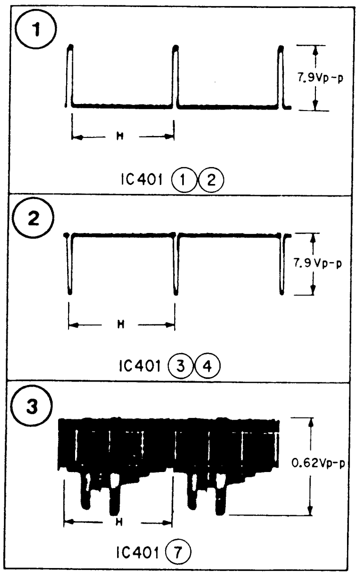
There are few cases that the part isn't mounted in this model is printed on this diagram.

CD-148 (CCD IMAGER) SCHEMATIC DIAGRAM

— Ref No. CD-148 BOARD: 3,000 series —


1
2
3
4
5
6
7
A
B
C
D
E
CD-148 BOARD
no mark : CAMERA REC mode
CN401 16P (A-4)
V4 1
V3 2
V2 3
V1 4
GND 5
H2 6
H1 7
RG 8
GND 9
CAM_-7.5V 10
VSHT 11
GND 12
CAM_15V 13
GND 14
CCD OUT 15
GND 16
TO
VC-177 BOARD(1/14)
CN112
(SEE PAGE 4-18)
(B-1)
IC401
CCD IMAGER
IC401
ICX071AK-12 (EXCEPT TYPE D)
ICX079AK-12 (TYPE D)
V4
V3
V2
V1
CGG
GND
CCD OUT
CCD
IMAGER
H2
H1
RG
VL
SHT
DGND
VDD
-7
-7.1
-0.3
-0.3
9.6
1.4
1.6
11.8
-7.5
8.8
14.6
R407
0
2012
C401
0.1
F
C405
4.7
16V
TA A
L401
100uH
2520
C406
4.7
16V
TA A
Q401
2SK1875
D
G
S
14.6
10
Q402
2SC4178
14.6
10.1
9.3
R404
4700
R403
10k
(B-4)(C-4)
Q401, 402
BUFFER
• SIGNAL PATH
VIDEO SIGNAL
CHROMA
Y
Y/CHROMA
REC
PB
TYPE D:CCD-TR760E, CC867
EXCEPT TYPE D:CCD-TR610E/TR710E/TR810E/TR910E
09

CD-148 BOARD



Note on the CCD Imager replacement

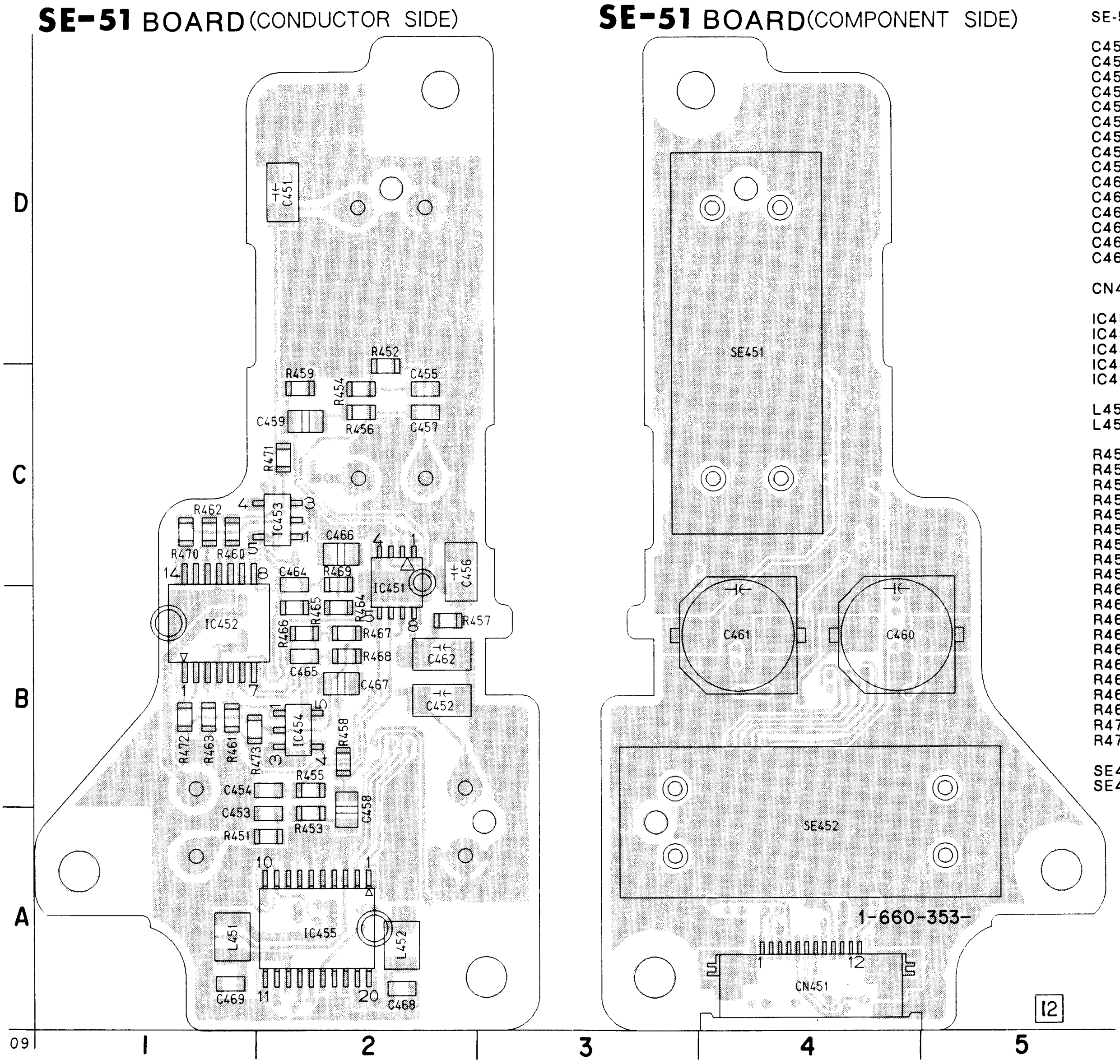
- The CCD imager is not mounted for the already mounted CD-148 board supplied as the repair parts.
  When replacing the CD-148 board, remove the CCD imager from the old board and install on the new board.
- Perform all adjustments of the camera block when the CCD imager has been replaced.
- Handle the CCD imager with attention such as MOS IC as it may be broken by static electricity in the structure.
  Also, prevent the receiving light section from dust attached and strong light.

SE-51 (STEADY SHOT) PRINTED WIRING BOARD (STEADY SHOT MODEL ONLY)

— Ref No. SE-51 BOARD: 3,000 series —

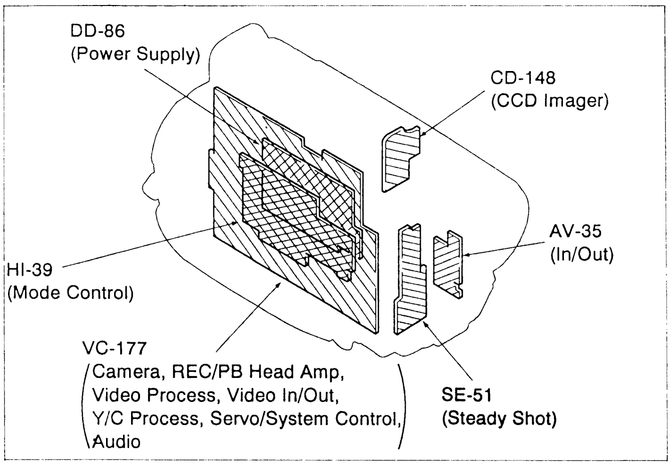
SE-51 BOARD (CONDUCTOR SIDE)

SE-51 BOARD (COMPONENT SIDE)


D
C
B
A
09
1
2
3
4
5
C451
R452
R459
C455
R454
C459
R456
C457
R471
R462
IC453
C466
R470
R460
14
8
C464
R469
IC451
C456
IC452
R465
R454
R457
R466
R467
R468
C462
C465
C467
C452
R472
R463
R461
R473
IC454
R458
R455
C454
C453
R451
R453
C458
10
1
L451
IC455
L452
C469
11
20
C468
SE451
C461
C460
SE452
1-660-353-
CN451
12
[12]

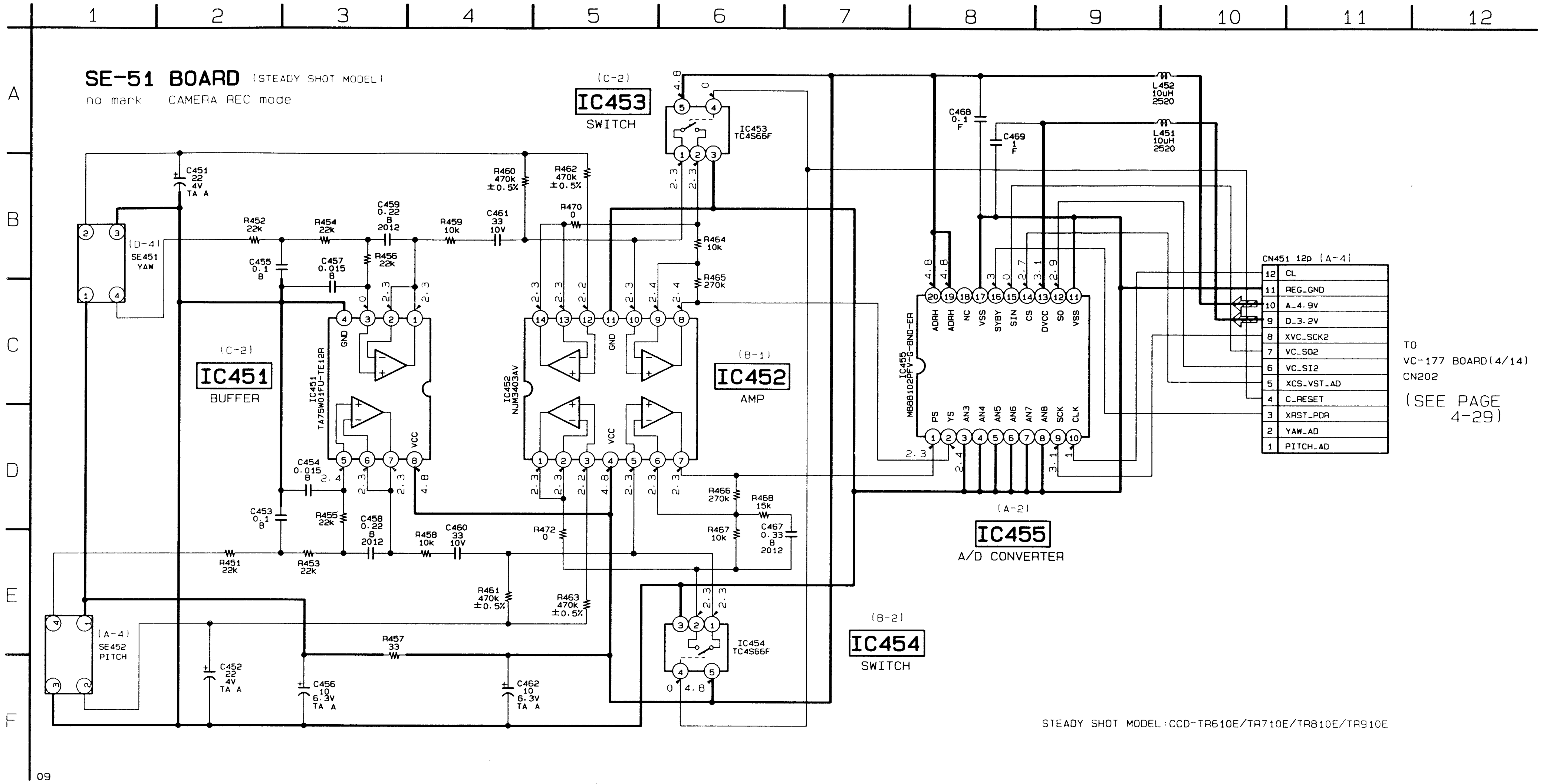
SE-51	BOARD
C451	D-1
C452	B-2
C453	A-2
C454	B-2
C455	C-2
C456	C-2
C457	C-2
C458	A-2
C459	C-2
C460	B-4
C461	B-4
C462	B-2
C467	B-2
C468	A-2
C469	A-1
CN451	A-4
IC451	C-2
IC452	B-1
IC453	C-2
IC454	B-2
IC455	A-2
L451	A-1
L452	A-2
R451	A-2
R452	C-2
R453	A-2
R454	C-2
R455	B-2
R456	C-2
R457	B-2
R458	B-2
R459	C-2
R460	C-1
R461	B-1
R462	C-1
R463	B-1
R464	B-2
R465	B-2
R466	B-2
R467	B-2
R468	B-2
R470	C-1
R472	B-1
SE451	D-4
SE452	A-4

There are few cases that the part isn't mounted in this model is printed on this diagram.


DD-86
(Power Supply)
CD-148
(CCD Imager)
AV-35
(In/Out)
HI-39
(Mode Control)
VC-177
(Camera, REC/PB Head Amp, Video Process, Video In/Out, Y/C Process, Servo/System Control, Audio)
SE-51
(Steady Shot)

SE-51 (STEADY SHOT) SCHEMATIC DIAGRAM (STEADY SHOT MODEL ONLY)

— Ref No. SE-51 BOARD: 3,000 series —


1 2 3 4 5 6 7 8 9 10 11 12
A B C D E F
SE-51 BOARD (STEADY SHOT MODEL)
no mark CAMERA REC mode
(C-2) IC453 SWITCH
IC453 TC4S66F
(D-4) SE451 YAW
(A-4) SE452 PITCH
C451 22 4V TA A
C452 22 4V TA A
C453 0.1 B
C454 0.015 B
C455 0.1 B
C456 10 6.3V TA A
C457 0.015 B
C458 0.22 B 2012
C459 0.22 B 2012
C460 33 10V
C461 33 10V
C462 10 6.3V TA A
C467 0.33 B 2012
C468 0.1 F
C459 1 F
R451 22k
R452 22k
R453 22k
R454 22k
R455 22k
R456 22k
R457 33
R458 10k
R459 10k
R460 470k ±0.5%
R461 470k ±0.5%
R462 470k ±0.5%
R463 470k ±0.5%
R464 10k
R465 270k
R466 270k
R467 10k
R468 15k
R470 0
R472 0
L451 10uH 2520
L452 10uH 2520
(C-2) IC451 BUFFER
IC451 TA75W01FU-TE12R
GND
VCC
(B-1) IC452 AMP
IC452 NJM3403AV
(B-2) IC454 SWITCH
IC454 TC4S66F
IC455 MB88102PFV-G-BND-ER
ADRH ADRH NC VSS SYBY SIN CS DVCC SO VSS
PS YS AN3 AN4 AN5 AN6 AN7 AN8 SCK CLK
(A-2) IC455 A/D CONVERTER
CN451 12p (A-4)
12 CL
11 REG_GND
10 A_4.9V
9 D_3.2V
8 XVC_SCK2
7 VC_SO2
6 VC_SI2
5 XCS_VST_AD
4 C_RESET
3 XRST_PDR
2 YAW_AD
1 PITCH_AD
TO VC-177 BOARD(4/14) CN202
(SEE PAGE 4-29)
STEADY SHOT MODEL:CCD-TR610E/TR710E/TR810E/TR910E
09

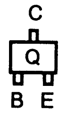
VC-177 (CAMERA, REC/PB HEAD AMP, VIDEO PROCESS, VIDEO IN/OUT, Y/C PROCESS, SERVO/SYSTEM CONTROL, AUDIO) PRINTE

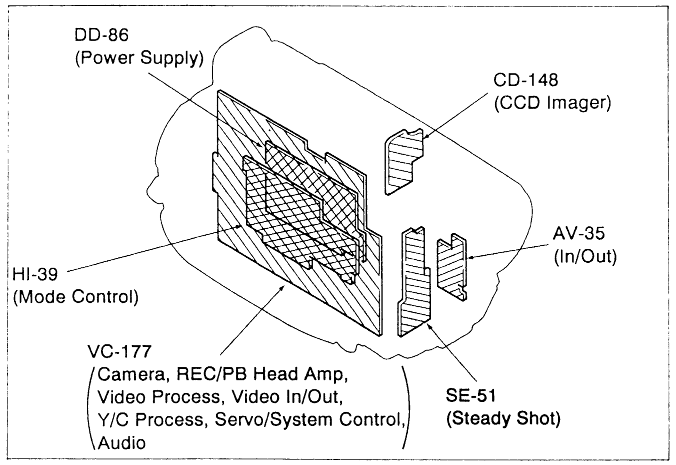
— Ref No. VC-177 BOARD: 10,000 series —

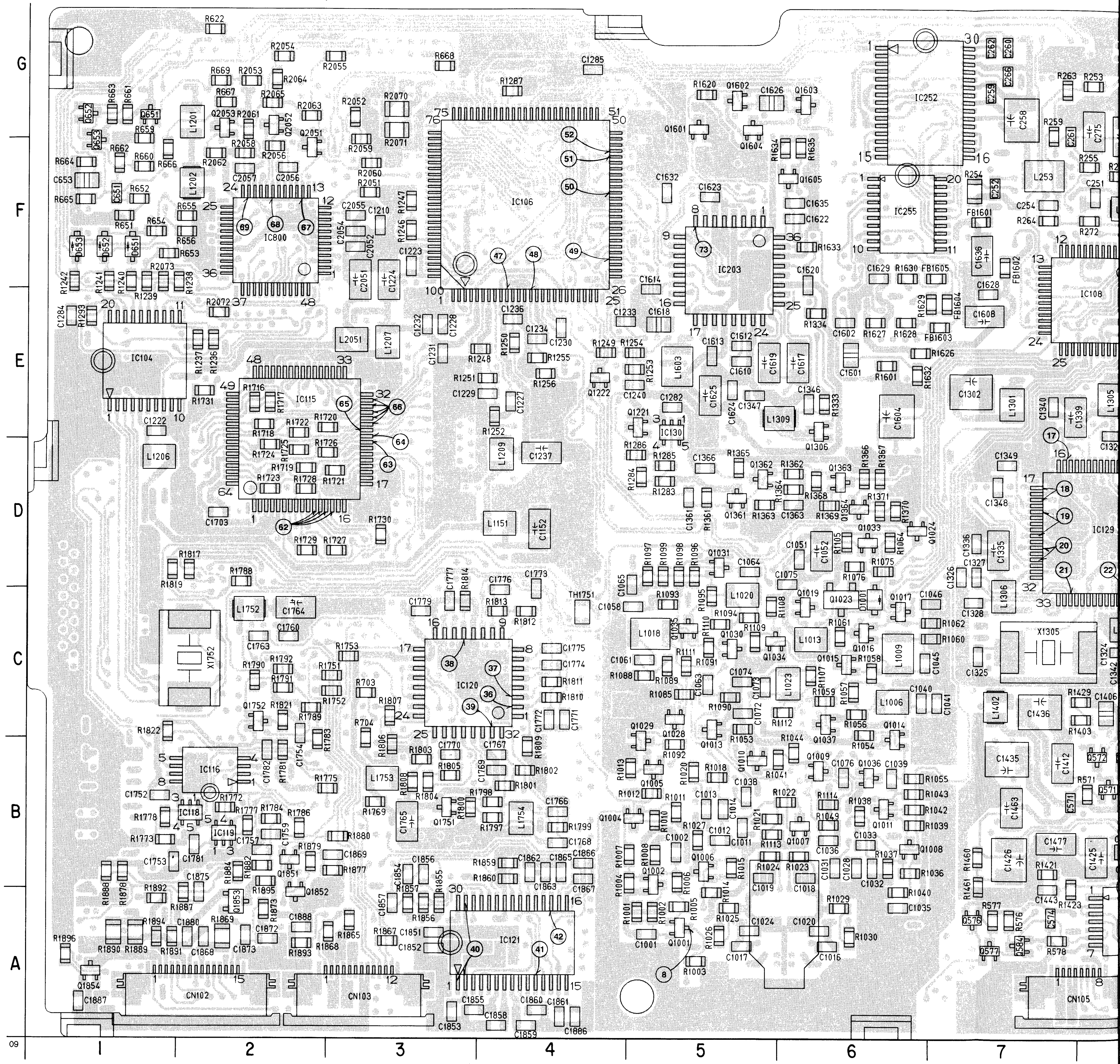
VC-177 BOARD (COMPONENT SIDE)

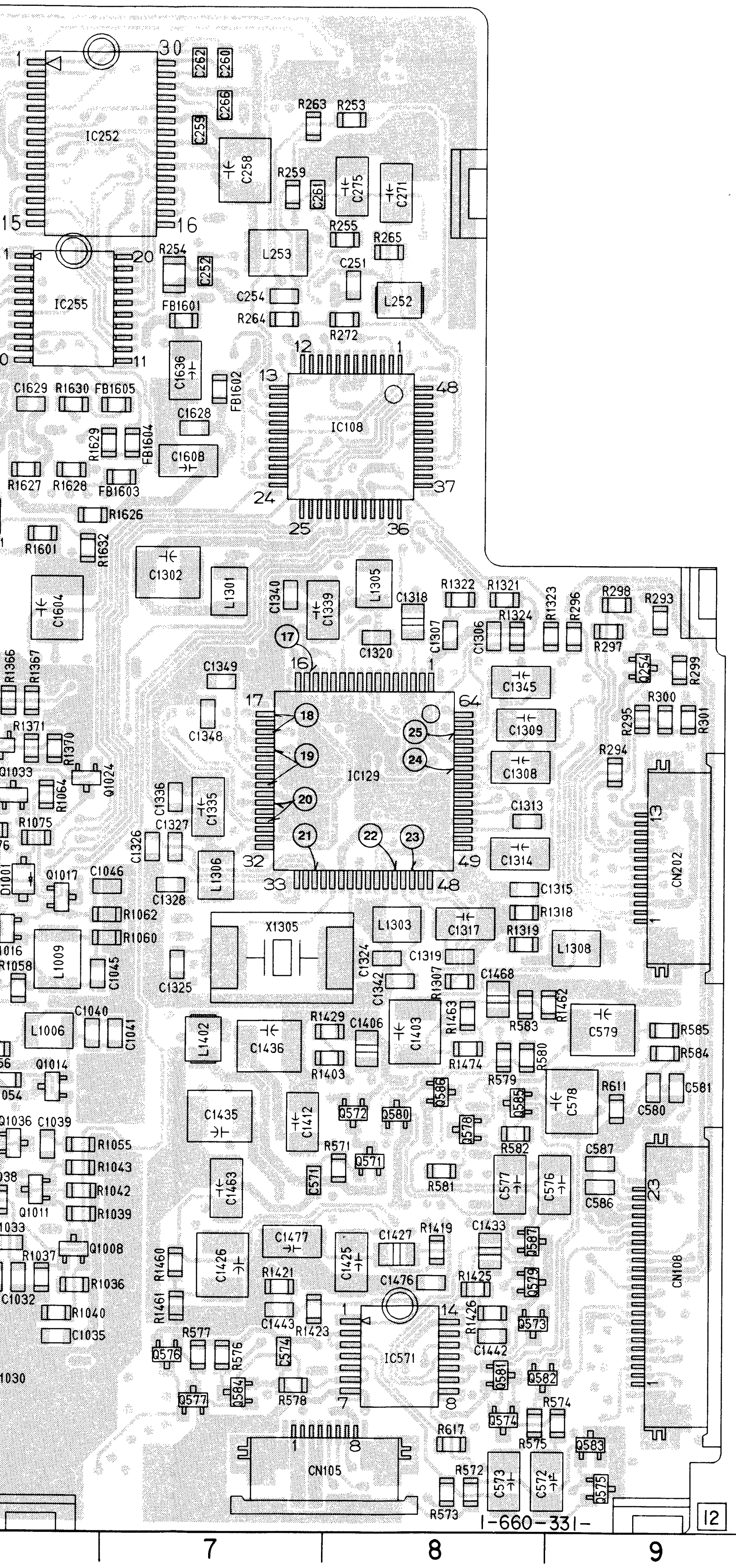
There are few cases that the part isn't mounted in this model is printed on this diagram.

- **For printed wiring boards.**
- This board is a six-layer print board. However, the patterns of layers 2, 3, 4 and 5 have not been included in the diagram.
- Chip transistor




DD-86
(Power Supply)
CD-148
(CCD Imager)
AV-35
(In/Out)
HI-39
(Mode Control)
VC-177
(Camera, REC/PB Head Amp,
Video Process, Video In/Out,
Y/C Process, Servo/System Control,
Audio
SE-51
(Steady Shot)


G
F
E
D
C
B
A
09
1
2
3
4
5
6
7
IC106
IC800
IC203
IC252
IC255
IC108
IC104
IC115
IC130
IC129
IC120
IC116
IC118
IC119
IC121
CN102
CN103
CN105
X1305
X1752


IC252
IC255
IC108
IC129
IC571
X1305
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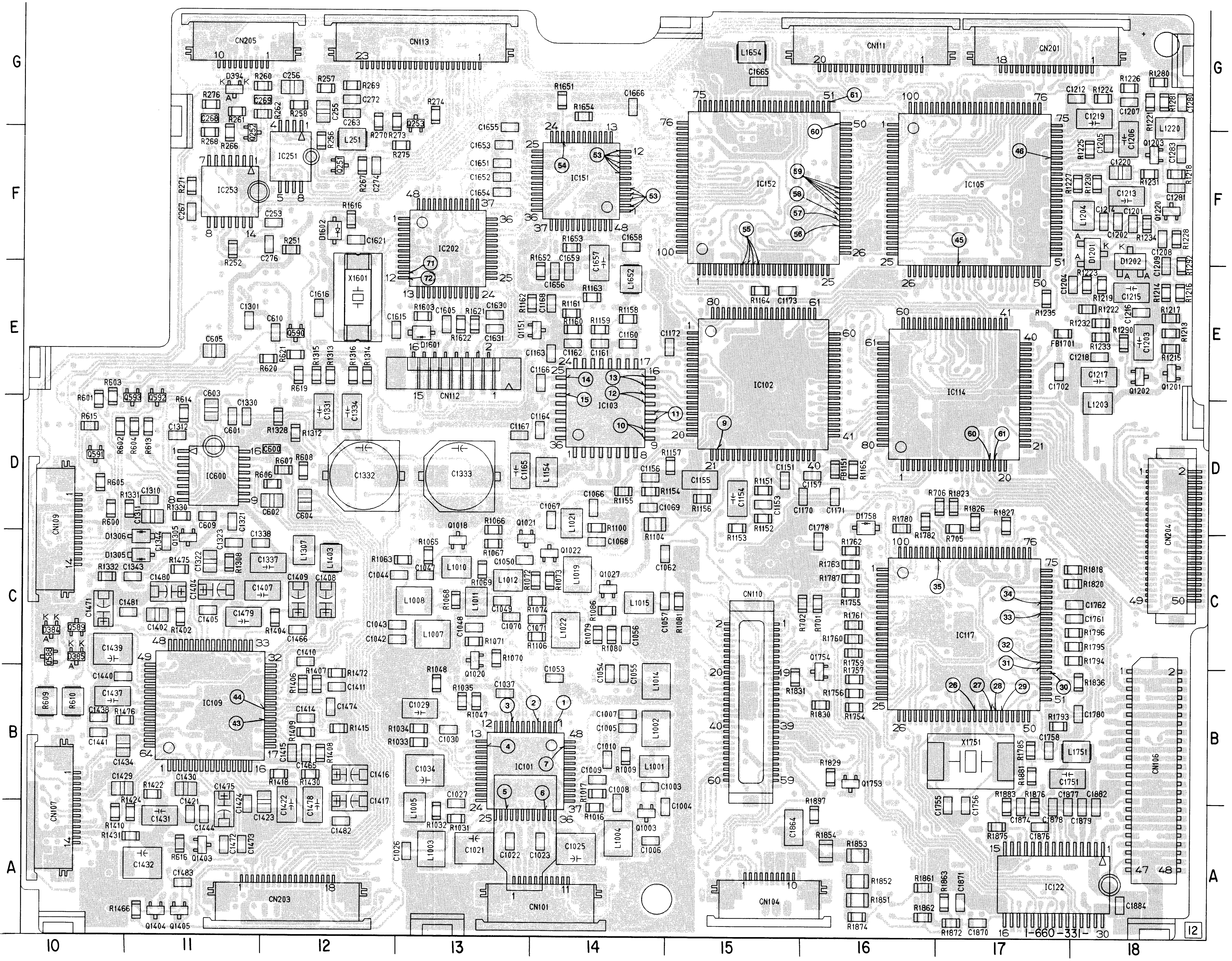
VC-177 BOARD (CONDUCTOR SIDE)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VC-177 BOARD

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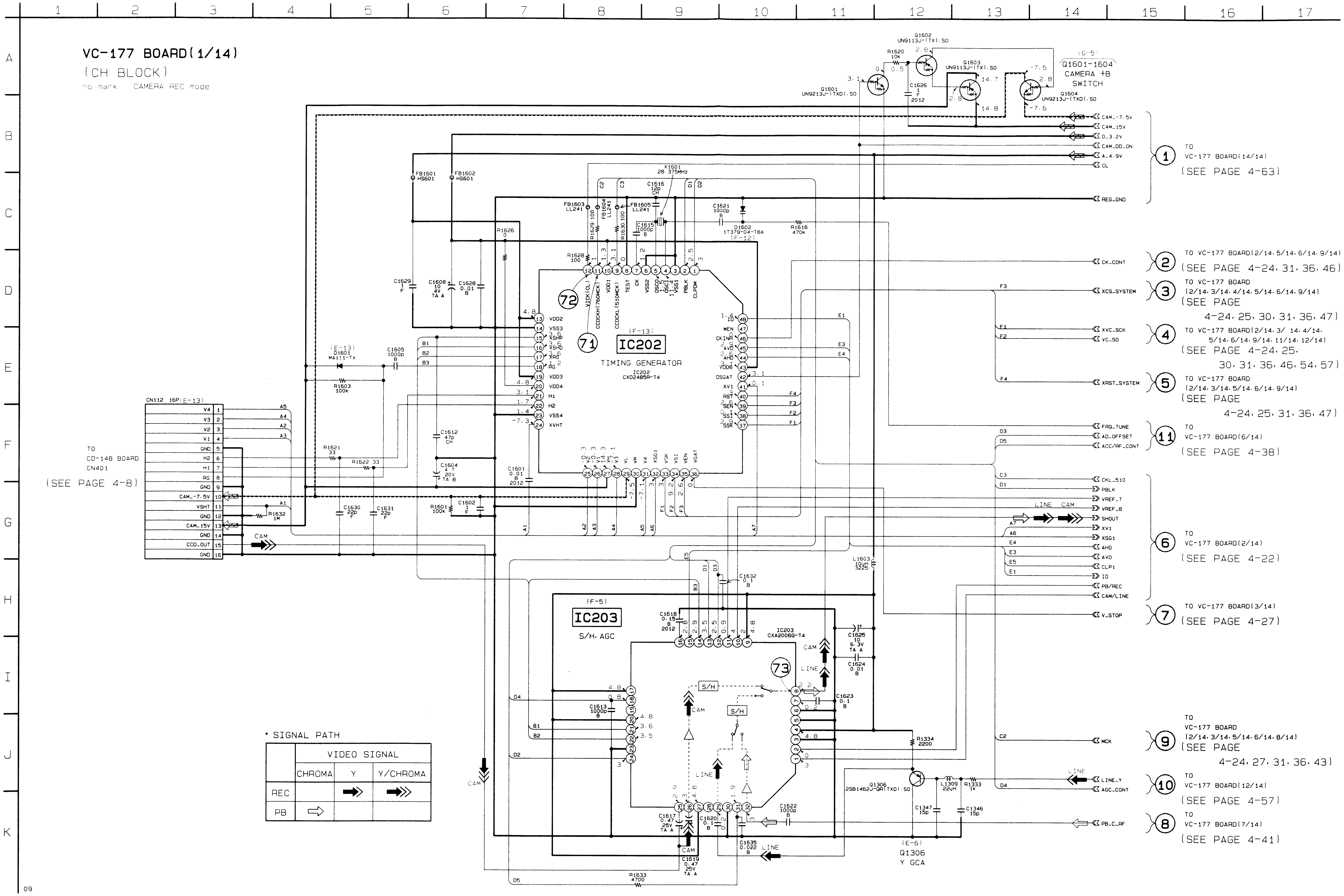
R2065	G-2
R2070	G-3
R2071	G-3
R2072	E-2
R2073	F-1
TH1751	C-4
X1305	C-7
X1601	E-12
X1751	B-17
X1752	C-2

VC-177 (CAMERA (1)) SCHEMATIC DIAGRAM

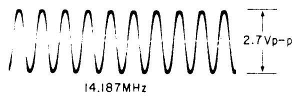
— Ref No. VC-177 BOARD: 10,000 series —



VC-177 BOARD(1/14)
(CH BLOCK)
no mark : CAMERA REC mode
IC202
TIMING GENERATOR
IC202 CXD2485R-T4
IC203
S/H, AGC
IC203 CXA2006Q-T4
X1601 28.375MHz
(G-5) Q1601-1604 CAMERA +B SWITCH
Q1306 Y GCA
CN112 16P
TO CD-148 BOARD CN401 (SEE PAGE 4-8)
TO VC-177 BOARD(14/14) (SEE PAGE 4-63)
TO VC-177 BOARD(2/14,5/14,6/14,9/14) (SEE PAGE 4-24,31,36,46)
TO VC-177 BOARD (2/14,3/14,4/14,5/14,6/14,9/14) (SEE PAGE 4-24,25,30,31,36,47)
TO VC-177 BOARD(2/14,3/14,4/14,5/14,6/14,9/14,11/14,12/14) (SEE PAGE 4-24,25,30,31,36,46,54,57)
TO VC-177 BOARD (2/14,3/14,5/14,6/14,9/14) (SEE PAGE 4-24,25,31,36,47)
TO VC-177 BOARD(6/14) (SEE PAGE 4-38)
TO VC-177 BOARD(2/14) (SEE PAGE 4-22)
TO VC-177 BOARD(3/14) (SEE PAGE 4-27)
TO VC-177 BOARD (2/14,3/14,5/14,6/14,8/14) (SEE PAGE 4-24,27,31,36,43)
TO VC-177 BOARD(12/14) (SEE PAGE 4-57)
TO VC-177 BOARD(7/14) (SEE PAGE 4-41)
• SIGNAL PATH
VIDEO SIGNAL
CHROMA
Y
Y/CHROMA
REC
PB

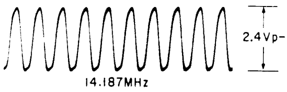
VC-177 BOARD (CH BLOCK)

(71)



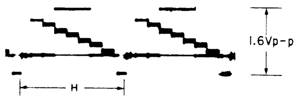
IC202 ⑪ REC/PB

(72)



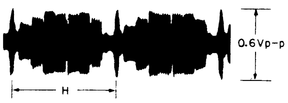
IC202 ⑫ REC/PB

(73)



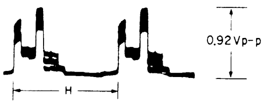
IC203 ⑧ REC

(73)



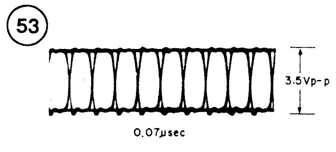
IC203 ⑧ PB

(73)

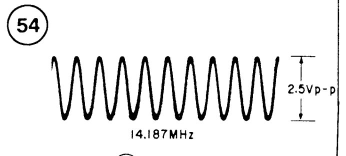


IC203 ⑧ CAMERA REC

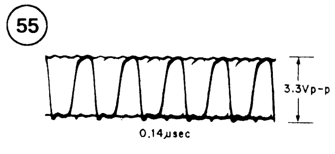
VC-177 BOARD (CA BLOCK)



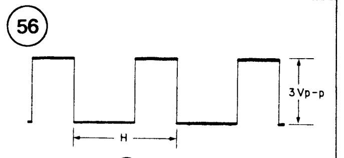
IC151 ①-⑤,⑧-⑫ CAMERA REC



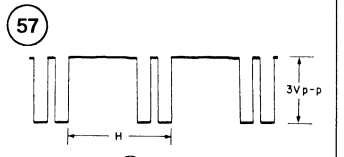
IC151 ㉒ CAMERA REC



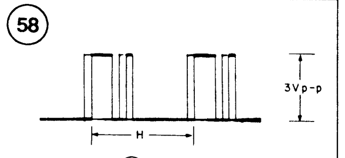
IC152 ⑨—⑫ CAMERA REC



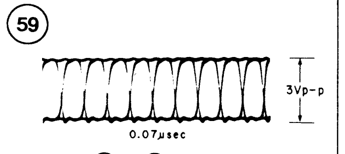
IC152 ㉛ CAMERA REC



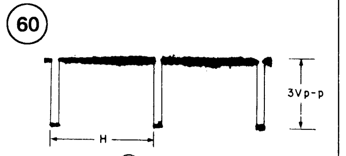
IC152 ㉜ CAMERA REC



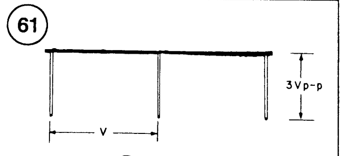
IC152 ㉝ CAMERA REC



IC152 ㉞—㊳ CAMERA REC



IC152 (50) CAMERA REC

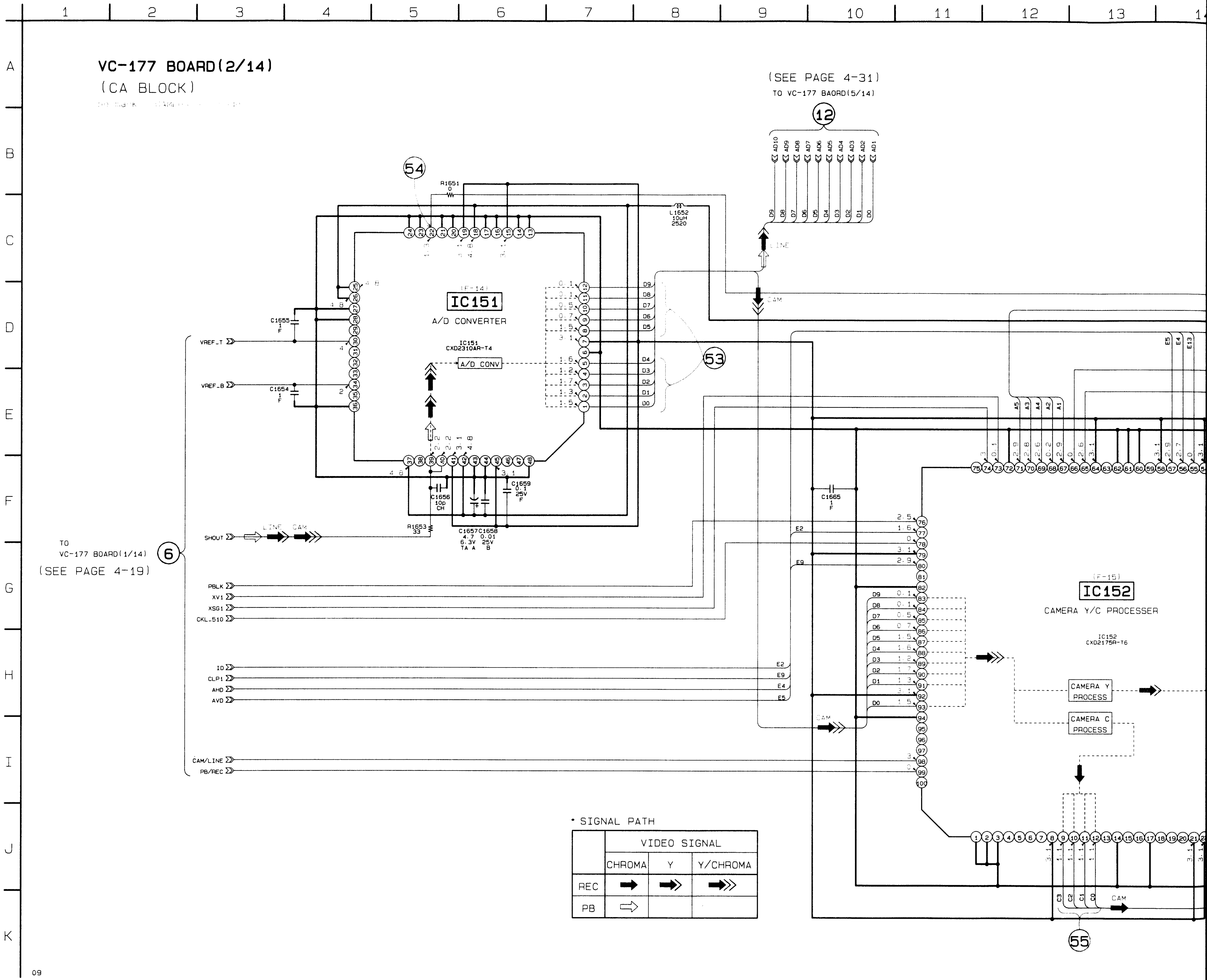


IC152 (51) CAMERA REC

VC-177 (CAMERA (2)) SCHEMATIC DIAGRAM

— Ref No. VC-177 BOARD: 10,000 series —

• Refer to page 4 – 13 for Printed Wiring Board.


1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G
H
I
J
K
VC-177 BOARD(2/14)
(CA BLOCK)
(SEE PAGE 4-31)
TO VC-177 BAORD(5/14)
12
AD10
AD9
AD8
AD7
AD6
AD5
AD4
AD3
AD2
AD1
D9
D8
D7
D6
D5
D4
D3
D2
D1
D0
LINE
CAM
54
R1651
0
L1652
10uH
2520
IC151
A/D CONVERTER
IC151
CXD2310AR-T4
A/D CONV
53
C1655
1
F
C1654
1
F
VREF_T
VREF_B
C1656
10p
CH
C1657
4.7
6.3V
TA A
C1658
0.01
25V
B
C1659
0.1
25V
F
R1653
33
SHOUT
TO
VC-177 BOARD(1/14)
(SEE PAGE 4-19)
6
PBLK
XV1
XSG1
CKL_510
ID
CLP1
AHD
AVD
CAM/LINE
PB/REC
E2
E9
E4
E5
E13
A5
A3
A4
A2
A1
C1665
1
F
IC152
CAMERA Y/C PROCESSER
IC152
CXD2175R-T6
CAMERA Y
PROCESS
CAMERA C
PROCESS
C3
C2
C1
C0
CAM
55
09

• SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡	➡»	➡»»
PB	⇨		

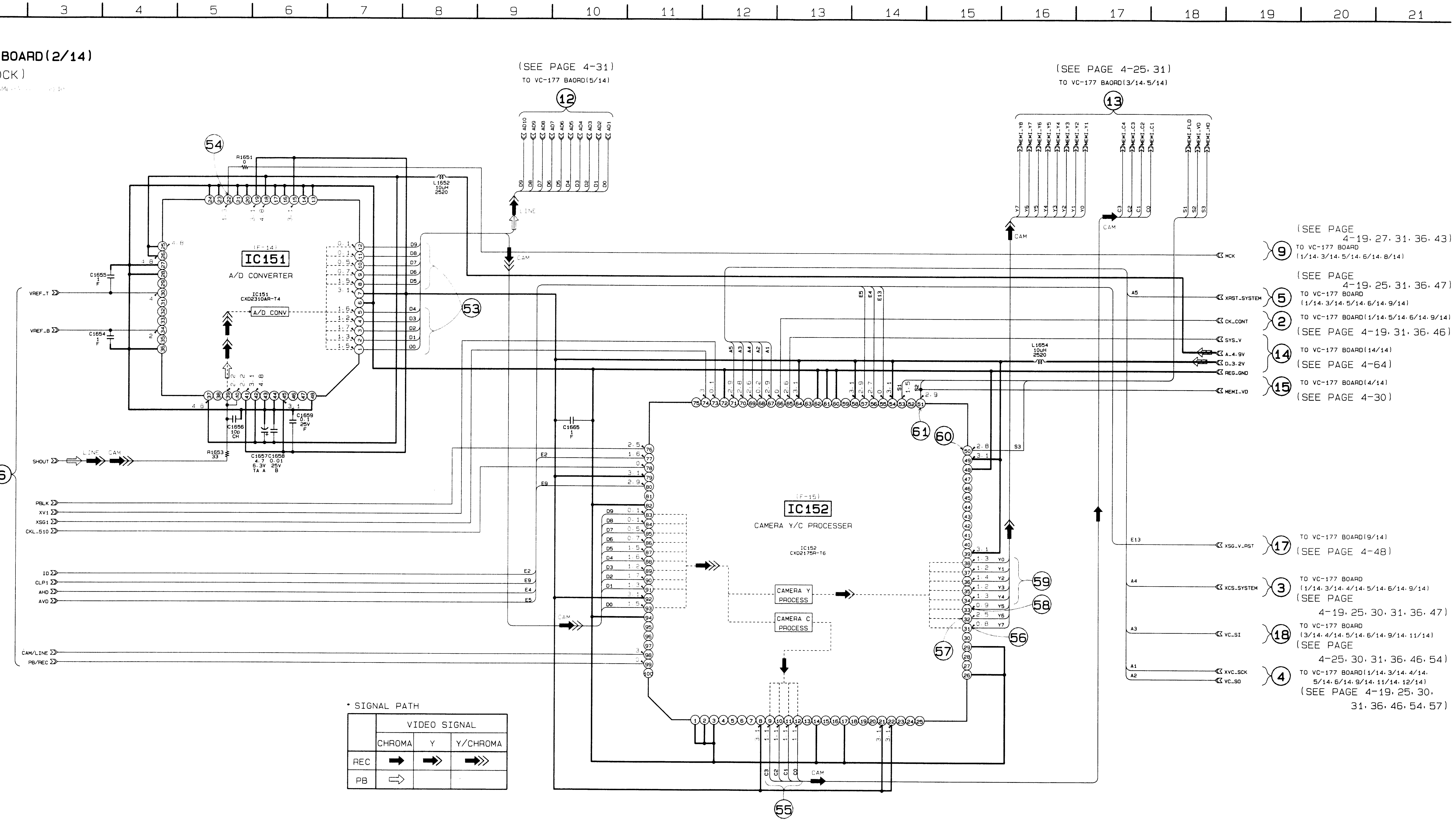
SCHEMATIC DIAGRAM

000 series —

• Refer to page 4 – 13 for Printed Wiring Board.

BOARD (2/14)

CK)


3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
(SEE PAGE 4-31)
TO VC-177 BAORD(5/14)
12
AD10
AD9
AD8
AD7
AD6
AD5
AD4
AD3
AD2
AD1
D9
D8
D7
D6
D5
D4
D3
D2
D1
D0
LINE
CAM
54
R1651
0
L1652
10uH
2520
(F-14)
IC151
A/D CONVERTER
IC151
CXD2310AR-T4
A/D CONV
C1655
1
F
C1654
1
F
VREF_T
VREF_B
SHOUT
R1653
33
C1656
10p
CH
C1657
4.7
6.3V
TA A
C1658
0.01
25V
B
C1659
0.1
25V
F
53
C1665
1
F
(SEE PAGE 4-25, 31)
TO VC-177 BAORD(3/14, 5/14)
13
MEMI_Y8
MEMI_Y7
MEMI_Y6
MEMI_Y5
MEMI_Y4
MEMI_Y3
MEMI_Y2
MEMI_Y1
MEMI_C4
MEMI_C3
MEMI_C2
MEMI_C1
MEMI_FLD
MEMI_VD
MEMI_HD
Y7
Y6
Y5
Y4
Y3
Y2
Y1
Y0
C3
C2
C1
C0
S1
S2
S3
E5
E4
E13
A5
A4
A3
A2
A1
L1654
10uH
2520
61
60
(F-15)
IC152
CAMERA Y/C PROCESSER
IC152
CXD2175AR-T6
CAMERA Y
PROCESS
CAMERA C
PROCESS
59
58
57
56
55
MCK
(SEE PAGE 4-19, 27, 31, 36, 43)
TO VC-177 BOARD (1/14, 3/14, 5/14, 6/14, 8/14)
9
XRST_SYSTEM
(SEE PAGE 4-19, 25, 31, 36, 47)
TO VC-177 BOARD (1/14, 3/14, 5/14, 6/14, 9/14)
5
CK_CONT
TO VC-177 BOARD(1/14, 5/14, 6/14, 9/14)
2
(SEE PAGE 4-19, 31, 36, 46)
SYS_V
A_4.9V
D_3.2V
REG_GND
TO VC-177 BOARD(14/14)
14
(SEE PAGE 4-64)
MEMI_VD
TO VC-177 BOARD(4/14)
15
(SEE PAGE 4-30)
XSG_V_RST
TO VC-177 BOARD(9/14)
17
(SEE PAGE 4-48)
XCS_SYSTEM
TO VC-177 BOARD (1/14, 3/14, 4/14, 5/14, 6/14, 9/14)
3
(SEE PAGE 4-19, 25, 30, 31, 36, 47)
VC_SI
TO VC-177 BOARD (3/14, 4/14, 5/14, 6/14, 9/14, 11/14)
18
(SEE PAGE 4-25, 30, 31, 36, 46, 54)
XVC_SCK
VC_SO
TO VC-177 BOARD(1/14, 3/14, 4/14, 5/14, 6/14, 9/14, 11/14, 12/14)
4
(SEE PAGE 4-19, 25, 30, 31, 36, 46, 54, 57)
PBLK
XV1
XSG1
CKL_510
ID
CLP1
AHD
AVD
E2
E9
E4
E5
CAM/LINE
PB/REC

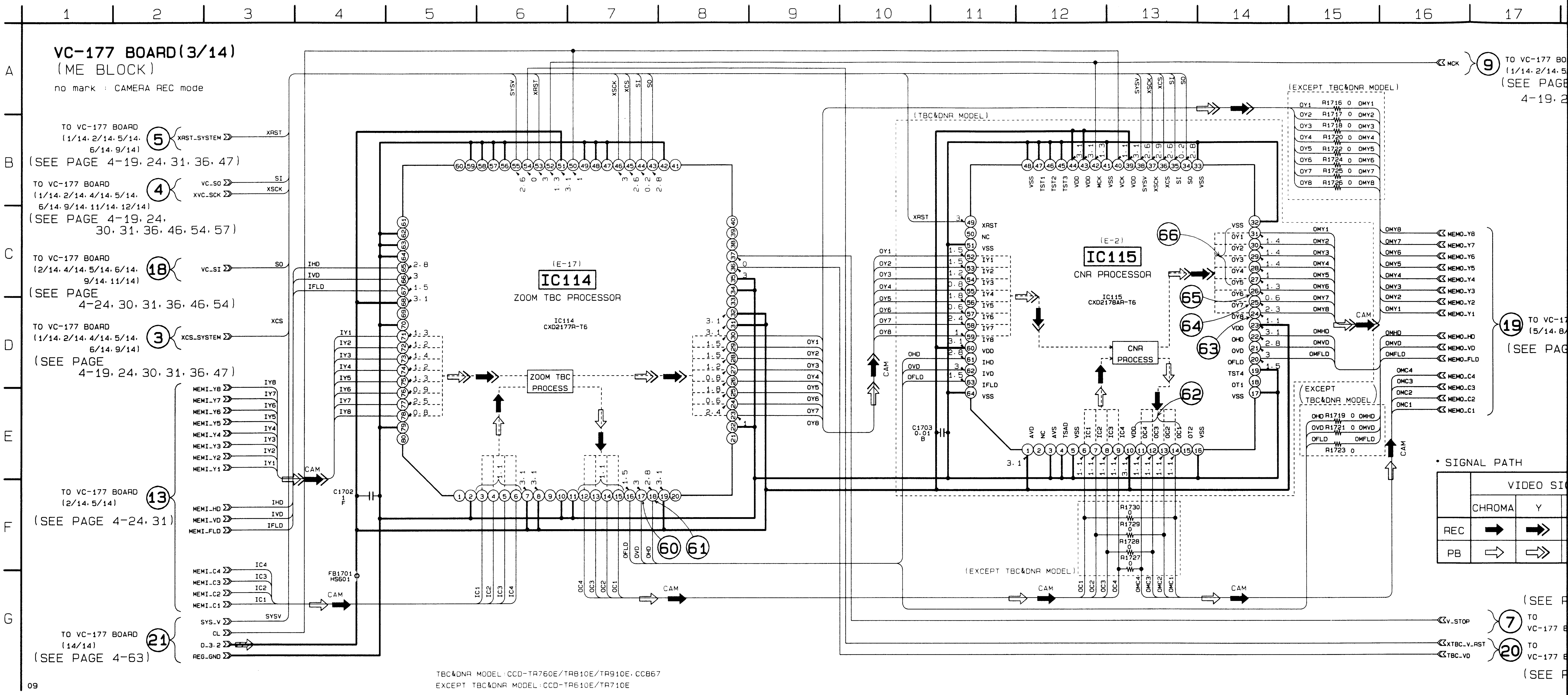
• SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡	➡》	➡》》
PB	⇨		

VC-177 (CAMERA (3)) SCHEMATIC DIAGRAM

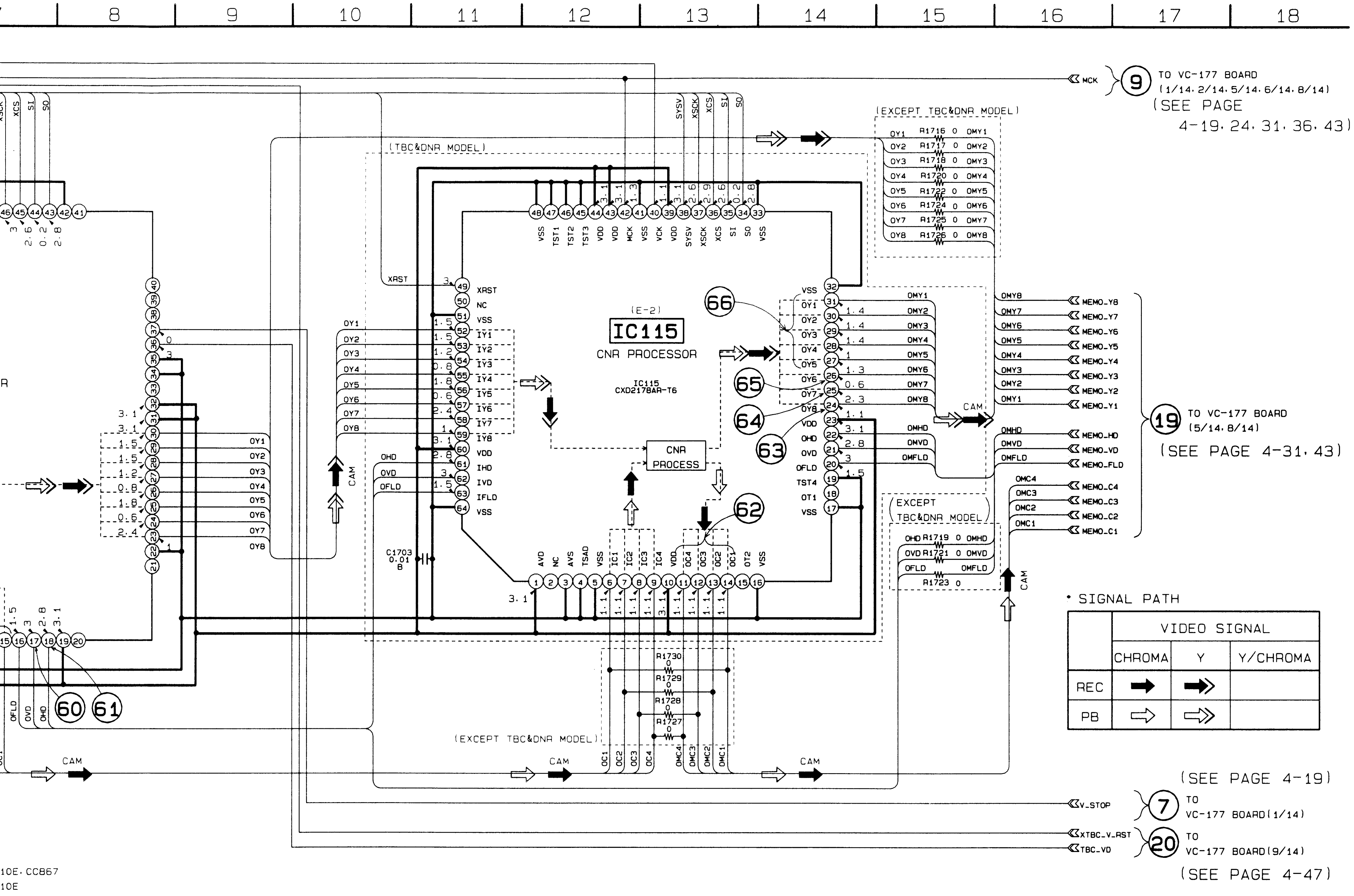
— Ref No. VC-177 BOARD: 10,000 series —

- Refer to page 4 – 13 for Printed Wiring Board.



VC-177 BOARD(3/14)
(ME BLOCK)
no mark : CAMERA REC mode
TO VC-177 BOARD (1/14, 2/14, 5/14, 6/14, 9/14)
5
XRST_SYSTEM
(SEE PAGE 4-19, 24, 31, 36, 47)
TO VC-177 BOARD (1/14, 2/14, 4/14, 5/14, 6/14, 9/14, 11/14, 12/14)
4
VC_SO
XVC_SCK
(SEE PAGE 4-19, 24, 30, 31, 36, 46, 54, 57)
TO VC-177 BOARD (2/14, 4/14, 5/14, 6/14, 9/14, 11/14)
18
VC_SI
(SEE PAGE 4-24, 30, 31, 36, 46, 54)
TO VC-177 BOARD (1/14, 2/14, 4/14, 5/14, 6/14, 9/14)
3
XCS_SYSTEM
(SEE PAGE 4-19, 24, 30, 31, 36, 47)
MEMI_Y8
MEMI_Y7
MEMI_Y6
MEMI_Y5
MEMI_Y4
MEMI_Y3
MEMI_Y2
MEMI_Y1
TO VC-177 BOARD (2/14, 5/14)
13
MEMI_HD
MEMI_VD
MEMI_FLD
(SEE PAGE 4-24, 31)
MEMI_C4
MEMI_C3
MEMI_C2
MEMI_C1
TO VC-177 BOARD (14/14)
21
SYS_V
CL
D_3.2
REG_GND
(SEE PAGE 4-63)
XRST
SI
XSCK
SO
XCS
IHD
IVD
IFLD
IY1
IY2
IY3
IY4
IY5
IY6
IY7
IY8
IC1
IC2
IC3
IC4
SYSV
CAM
C1702 1 F
FB1701 HS601
(E-17)
IC114
ZOOM TBC PROCESSOR
IC114 CXD2177R-T6
ZOOM TBC PROCESS
OY1
OY2
OY3
OY4
OY5
OY6
OY7
OY8
OC4
OC3
OC2
OC1
OFLD
OVD
OHD
60
61
(TBC&DNR MODEL)
(E-2)
IC115
CNR PROCESSOR
IC115 CXD2178AR-T6
CNR PROCESS
XRST
NC
VSS
VDD
IHD
IVD
IFLD
TST1
TST2
TST3
MCK
VCK
XSCK
XCS
AVD
AVS
TSAD
OVD
OT1
OT2
TST4
OT1
C1703 0.01 B
R1730 0
R1729 0
R1728 0
R1727 0
(EXCEPT TBC&DNR MODEL)
R1716 0 OMY1
R1717 0 OMY2
R1718 0 OMY3
R1720 0 OMY4
R1722 0 OMY5
R1724 0 OMY6
R1725 0 OMY7
R1726 0 OMY8
OHD R1719 0 OMHD
OVD R1721 0 OMVD
OFLD R1723 0 OMFLD
OMY1
OMY2
OMY3
OMY4
OMY5
OMY6
OMY7
OMY8
OMHD
OMVD
OMFLD
OMC1
OMC2
OMC3
OMC4
62
63
64
65
66
MCK
9
TO VC-177 BO
(1/14, 2/14, 5
(SEE PAGE
4-19, 2
MEMO_Y8
MEMO_Y7
MEMO_Y6
MEMO_Y5
MEMO_Y4
MEMO_Y3
MEMO_Y2
MEMO_Y1
MEMO_HD
MEMO_VD
MEMO_FLD
MEMO_C4
MEMO_C3
MEMO_C2
MEMO_C1
19
TO VC-17
(5/14, 8/
(SEE PAG
V_STOP
7
TO VC-177 E
XTBC_V_RST
TBC_VD
20
TO VC-177 E
(SEE P
(SEE F
• SIGNAL PATH
VIDEO SI
CHROMA
Y
REC
PB
TBC&DNR MODEL : CCD-TR760E/TR810E/TR910E, CCB67
EXCEPT TBC&DNR MODEL : CCD-TR610E/TR710E
09

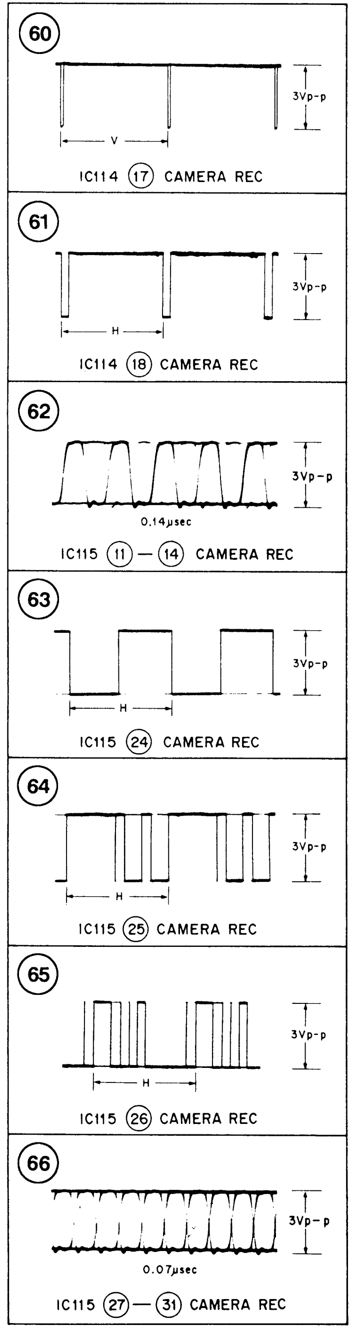
/iring Board.


8
9
10
11
12
13
14
15
16
17
18
(TBC&DNR MODEL)
(EXCEPT TBC&DNR MODEL)
(E-2)
IC115
CNR PROCESSOR
IC115
CXD2178AR-T6
CNR
PROCESS
C1703
0.01
B
R1716 0
R1717 0
R1718 0
R1720 0
R1722 0
R1724 0
R1725 0
R1726 0
R1719 0
R1721 0
R1723 0
R1727 0
R1728 0
R1729 0
R1730 0
(EXCEPT TBC&DNR MODEL)
CAM
MCK
TO VC-177 BOARD
(1/14, 2/14, 5/14, 6/14, 8/14)
(SEE PAGE
4-19, 24, 31, 36, 43)
MEMO_Y8
MEMO_Y7
MEMO_Y6
MEMO_Y5
MEMO_Y4
MEMO_Y3
MEMO_Y2
MEMO_Y1
MEMO_HD
MEMO_VD
MEMO_FLD
MEMO_C4
MEMO_C3
MEMO_C2
MEMO_C1
TO VC-177 BOARD
(5/14, 8/14)
(SEE PAGE 4-31, 43)
(SEE PAGE 4-19)
V_STOP
TO
VC-177 BOARD (1/14)
XTBC_V_RST
TBC_VD
TO
VC-177 BOARD (9/14)
(SEE PAGE 4-47)
10E, CC867
10E

• SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡	⇛	
PB	⇨	⇛	

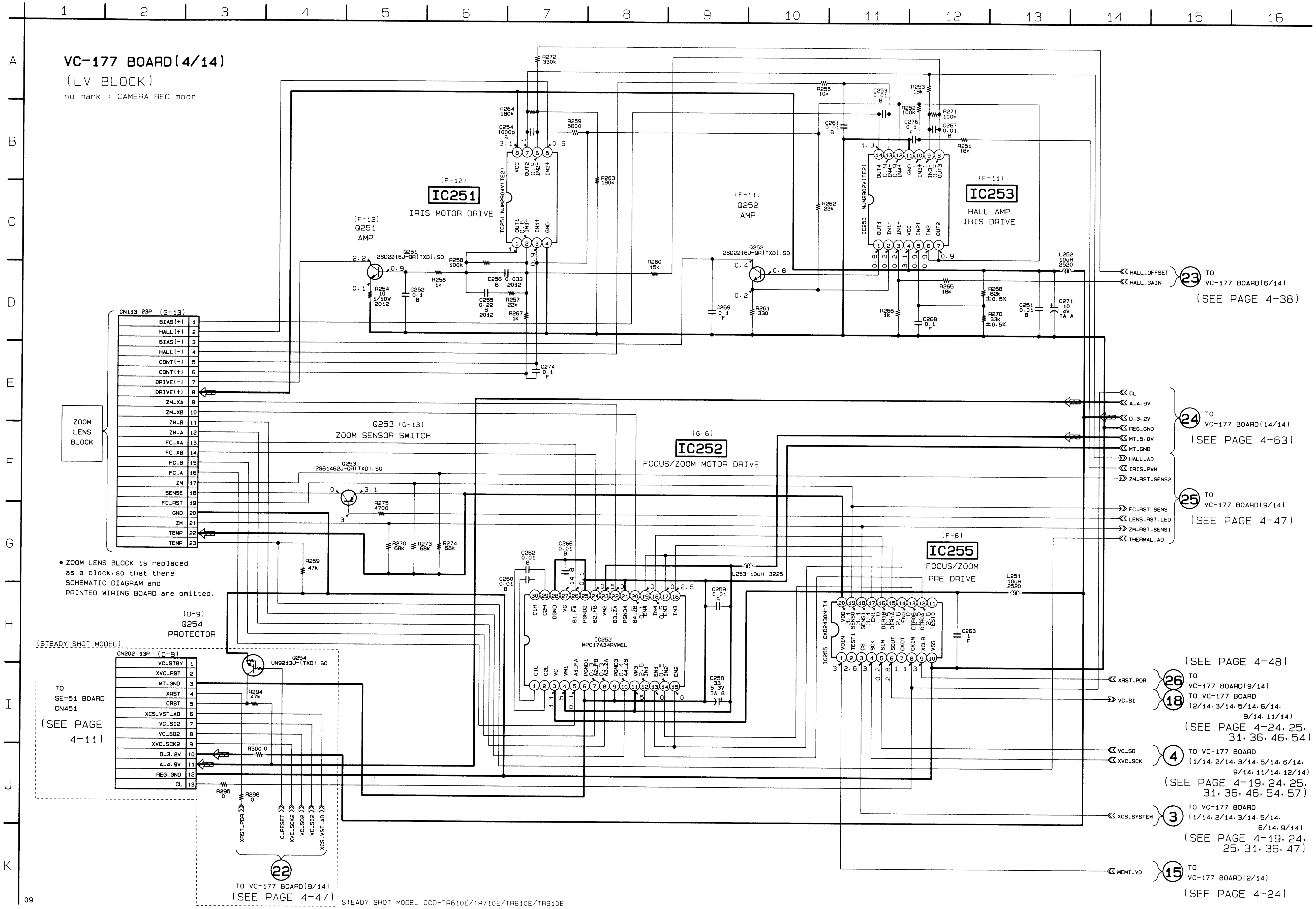
VC-177 BOARD (ME BLOCK)



VC-177 (CAMERA (4)) SCHEMATIC DIAGRAM

• Refer to page 4 – 13 for Printed Wiring Board.

— Ref No. VC-177 BOARD: 10,000 series —

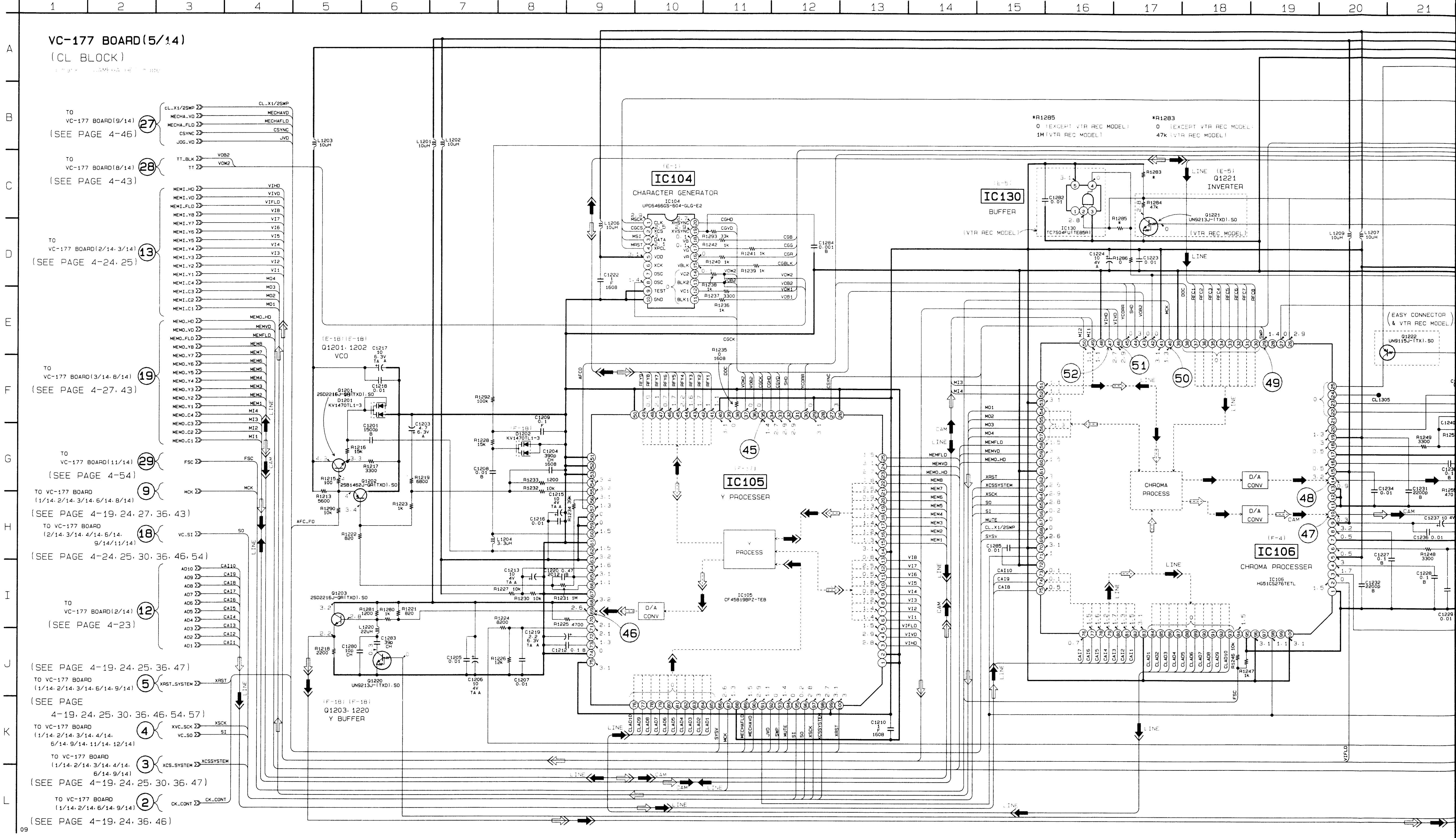


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
K
VC-177 BOARD(4/14)
(LV BLOCK)
no mark : CAMERA REC mode
IC251
IRIS MOTOR DRIVE
(F-12)
IC251 NJM2904V(TE2)
VCC
OUT2
IN2-
IN2+
OUT1
IN1-
IN1+
GND
(F-12)
Q251
AMP
Q251
2SD2216J-QR(TXD).SO
R254 10 1/10W 2012
C252 0.1 B
R258 100k
R256 1k
C256 0.033 B 2012
C255 0.22 B 2012
R257 22k
R267 1k
R264 180k
C254 1000p B
R259 5600
R263 180k
R272 330k
C274 0.1 F
(F-11)
Q252
AMP
Q252
2SD2216J-QR(TXD).SO
R260 15k
R262 22k
C269 0.1 F
R261 330
IC253
HALL AMP
IRIS DRIVE
(F-11)
IC253 NJM2902V(TE2)
OUT4
IN4-
IN4+
GND
IN3+
IN3-
OUT3
OUT1
IN1-
IN1+
VCC
IN2+
IN2-
OUT2
R255 10k
C253 0.01 B
R253 18k
R252 100k
R271 100k
C261 0.01 B
C276 0.1 F
C267 0.01 B
R251 18k
R265 18k
R266 1k
C268 0.1 F
R268 82k ±0.5%
R276 33k ±0.5%
C251 0.01 B
C271 10 4V TA A
L252 10uH 2520
HALL_OFFSET
HALL_GAIN
23
TO VC-177 BOARD(6/14)
(SEE PAGE 4-38)
CN113 23P (G-13)
BIAS(+)
HALL(+)
BIAS(-)
HALL(-)
CONT(-)
CONT(+)
DRIVE(-)
DRIVE(+)
ZM_XA
ZM_XB
ZM_B
ZM_A
FC_XA
FC_XB
FC_B
FC_A
ZM
SENSE
FC_RST
GND
ZM
TEMP
TEMP
ZOOM LENS BLOCK
Q253 (G-13)
ZOOM SENSOR SWITCH
Q253
2SB1462J-QR(TXD).SO
R275 4700
R270 68k
R273 68k
R274 68k
R269 47k
• ZOOM LENS BLOCK is replaced as a block, so that there SCHEMATIC DIAGRAM and PRINTED WIRING BOARD are omitted.
(G-6)
IC252
FOCUS/ZOOM MOTOR DRIVE
IC252 MPC17A34RVMEL
C1H
C2H
DGND
VG
B1_FA
PGND2
B2_FB
VM2
B3_ZA
PGND4
B4_ZB
EN4
IN4
EN3
IN3
C1L
C2L
VC
VM1
A1_FA
PGND1
A2_FB
A3_ZA
PGND3
A4_ZB
VM3
IN1
EN1
IN2
EN2
C262 0.01 B
C266 0.01 B
C260 0.01 B
C259 0.01 B
C258 33 6.3V TA B
L253 10uH 3225
(F-6)
IC255
FOCUS/ZOOM PRE DRIVE
IC255 CXD2430N-T4
VDD
SENS0
SENS1
EN1
DIR1B
DIR1A
EN0
DIR0B
DIR0A
TEST0
VDIN
TEST1
CS
SCK
SIN
SOUT
CKOT
CKIN
XCLR
VSS
C263 1 F
L251 10uH 2520
CL
A_4.9V
D_3.2V
REG_GND
MT_5.0V
MT_GND
HALL_AD
IRIS_PWM
ZM_RST_SENS2
24
TO VC-177 BOARD(14/14)
(SEE PAGE 4-63)
FC_RST_SENS
LENS_RST_LED
ZM_RST_SENS1
THERMAL_AD
25
TO VC-177 BOARD(9/14)
(SEE PAGE 4-47)
(D-9)
Q254
PROTECTOR
Q254
UN9213J-(TXD).SO
R294 47k
R300 0
R295 0
R298 0
(STEADY SHOT MODEL)
CN202 13P (C-9)
VC_STBY
XVC_RST
MT_GND
XRST
CRST
XCS_VST_AD
VC_SI2
VC_SO2
XVC_SCK2
D_3.2V
A_4.9V
REG_GND
CL
TO SE-51 BOARD CN451
(SEE PAGE 4-11)
XRST_POR
C_RESET
XVC_SCK2
VC_SO2
VC_SI2
XCS_VST_AD
22
TO VC-177 BOARD(9/14)
(SEE PAGE 4-47)
STEADY SHOT MODEL:CCD-TR610E/TR710E/TR810E/TR910E
(SEE PAGE 4-48)
XRST_POR
26
TO VC-177 BOARD(9/14)
VC_SI
18
TO VC-177 BOARD (2/14, 3/14, 5/14, 6/14, 9/14, 11/14)
(SEE PAGE 4-24, 25, 31, 36, 46, 54)
VC_SO
XVC_SCK
4
TO VC-177 BOARD (1/14, 2/14, 3/14, 5/14, 6/14, 9/14, 11/14, 12/14)
(SEE PAGE 4-19, 24, 25, 31, 36, 46, 54, 57)
XCS_SYSTEM
3
TO VC-177 BOARD (1/14, 2/14, 3/14, 5/14, 6/14, 9/14)
(SEE PAGE 4-19, 24, 25, 31, 36, 47)
MEMI_VD
15
TO VC-177 BOARD(2/14)
(SEE PAGE 4-24)
09

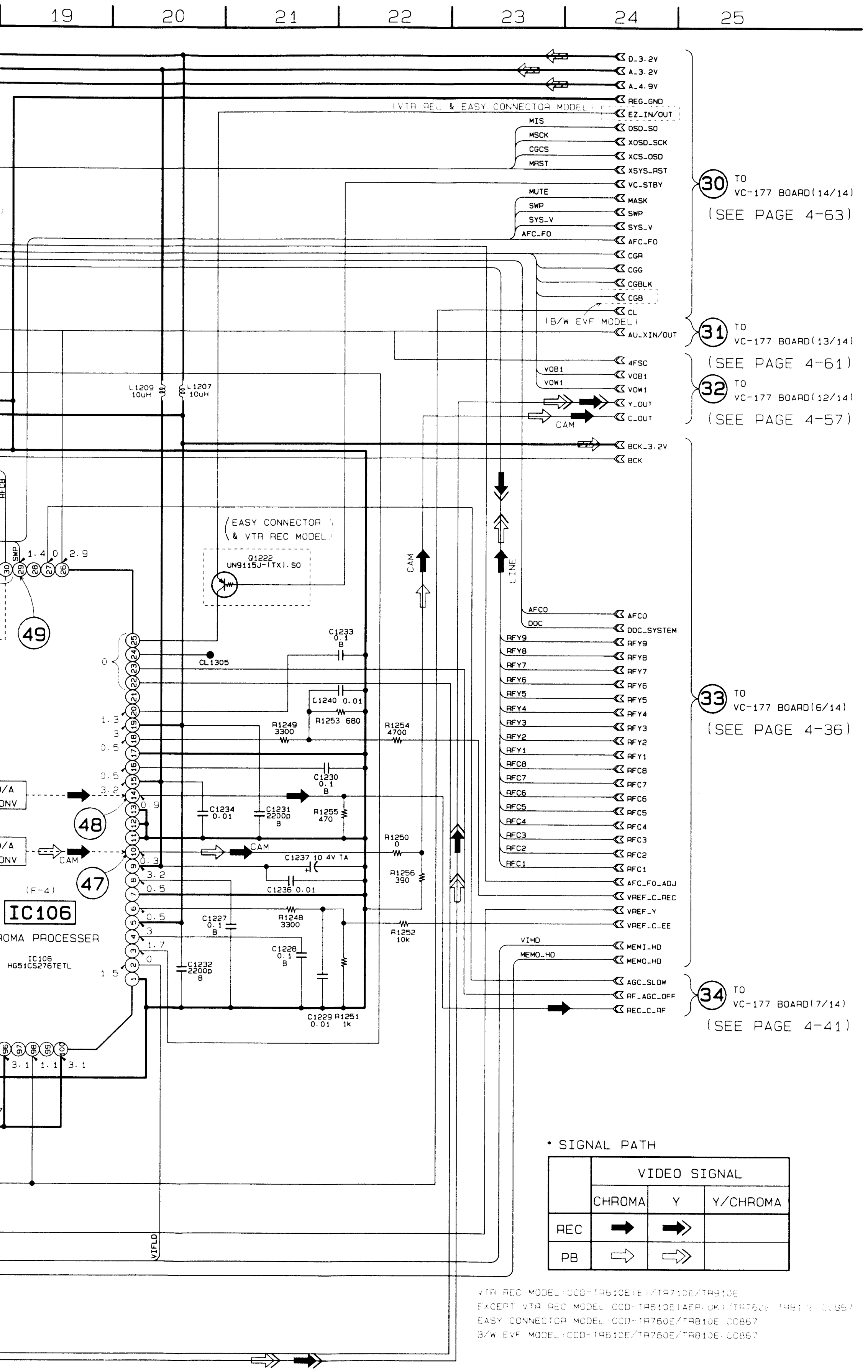
VC-177 (Y/C PROCESS) SCHEMATIC DIAGRAM

— Ref No. VC-177 BOARD: 10,000 series —

• Refer to page 4 – 13 for Printed Wiring Board.



VC-177 BOARD(5/14)
(CL BLOCK)
TO VC-177 BOARD(9/14) (SEE PAGE 4-46)
TO VC-177 BOARD(8/14) (SEE PAGE 4-43)
TO VC-177 BOARD(2/14, 3/14) (SEE PAGE 4-24, 25)
TO VC-177 BOARD(3/14, 8/14) (SEE PAGE 4-27, 43)
TO VC-177 BOARD(11/14) (SEE PAGE 4-54)
TO VC-177 BOARD (1/14, 2/14, 3/14, 6/14, 8/14) (SEE PAGE 4-19, 24, 27, 36, 43)
TO VC-177 BOARD (2/14, 3/14, 4/14, 6/14, 9/14/11/14) (SEE PAGE 4-24, 25, 30, 36, 46, 54)
TO VC-177 BOARD(2/14) (SEE PAGE 4-23)
(SEE PAGE 4-19, 24, 25, 36, 47)
TO VC-177 BOARD (1/14, 2/14, 3/14, 6/14, 9/14) (SEE PAGE 4-19, 24, 25, 30, 36, 46, 54, 57)
TO VC-177 BOARD (1/14, 2/14, 3/14, 4/14, 6/14, 9/14, 11/14, 12/14)
TO VC-177 BOARD (1/14, 2/14, 3/14, 4/14, 6/14, 9/14) (SEE PAGE 4-19, 24, 25, 30, 36, 47)
TO VC-177 BOARD (1/14, 2/14, 6/14, 9/14) (SEE PAGE 4-19, 24, 36, 46)
IC104 CHARACTER GENERATOR UPD6466GS-604-GLG-E2
IC105 Y PROCESSER CF45819BPZ-TEB
Y PROCESS
D/A CONV
IC130 BUFFER TC7S04FU(TE85R)
Q1221 INVERTER UN9213J-(TX).SO
IC106 CHROMA PROCESSER HG51CS276TETL
CHROMA PROCESS
Q1201, 1202 VCO
Q1203, 1220 Y BUFFER
*R1285 0 (EXCEPT VTR REC MODEL) 1M(VTR REC MODEL)
*R1283 0 (EXCEPT VTR REC MODEL) 47k (VTR REC MODEL)
(EASY CONNECTOR & VTR REC MODEL)
Q1222 UN9115J-(TX).SO
LINE
CAM

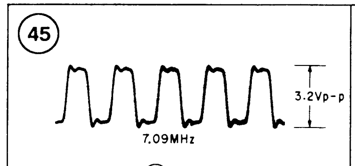

19
20
21
22
23
24
25
D_3.2V
A_3.2V
A_4.9V
REG_GND
(VTR REC & EASY CONNECTOR MODEL)
EZ_IN/OUT
MIS
MSCK
CGCS
MRST
OSD_SO
XOSD_SCK
XCS_OSD
XSYS_RST
VC_STBY
MUTE
SWP
SYS_V
AFC_FO
MASK
CGR
CGG
CGBLK
CGB
CL
(B/W EVF MODEL)
AU_XIN/OUT
30 TO VC-177 BOARD(14/14) (SEE PAGE 4-63)
31 TO VC-177 BOARD(13/14) (SEE PAGE 4-61)
4FSC
VOB1
VOW1
Y_OUT
C_OUT
CAM
32 TO VC-177 BOARD(12/14) (SEE PAGE 4-57)
BCK_3.2V
BCK
L1209 10uH
L1207 10uH
(EASY CONNECTOR & VTR REC MODEL)
Q1222 UN9115J-(TX).SO
CAM
LINE
AFCO
DOC
DOC_SYSTEM
RFY9
RFY8
RFY7
RFY6
RFY5
RFY4
RFY3
RFY2
RFY1
RFC8
RFC7
RFC6
RFC5
RFC4
RFC3
RFC2
RFC1
AFC_FO_ADJ
VREF_C_REC
VREF_Y
VREF_C_EE
33 TO VC-177 BOARD(6/14) (SEE PAGE 4-36)
VIHD
MEMO_HD
MEMI_HD
AGC_SLOW
RF_AGC_OFF
REC_C_RF
34 TO VC-177 BOARD(7/14) (SEE PAGE 4-41)
49
48
47
CL1305
C1233 0.1 B
C1240 0.01
R1253 680
R1249 3300
R1254 4700
C1230 0.1 B
C1234 0.01
C1231 2200p B
R1255 470
R1250 0
C1237 10 4V TA
C1236 0.01
R1256 390
C1227 0.1 B
R1248 3300
C1228 0.1 B
R1252 10k
C1232 2200p B
C1229 0.01
R1251 1k
1.4
0
2.9
1.3
3
0.5
0.5
3.2
3.2
0.5
0.5
3
1.7
0
1.5
3.1
1.1
3.1
(F-4)
IC106
CHROMA PROCESSER
IC106 HG51CS276TETL
VIFLD
SWP
CAM

• SIGNAL PATH

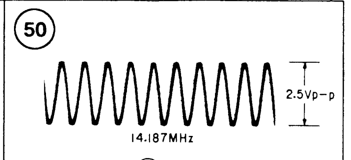
	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡	➡»	
PB	⇨	⇨»	

VTR REC MODEL:CCD-TR610E(E)/TR710E/TR910E
EXCEPT VTR REC MODEL:CCD-TR610E(AEP,UK)/TR760E/TR810E,CC867
EASY CONNECTOR MODEL:CCD-TR760E/TR810E,CC867
B/W EVF MODEL:CCD-TR610E/TR760E/TR810E,CC867

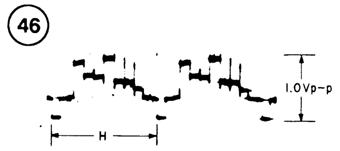
VC-177 BOARD (CL BLOCK)



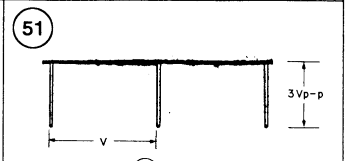
IC105 ㉟ CAMERA REC



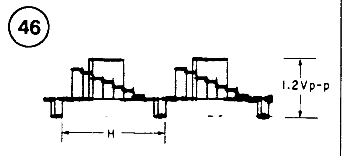
IC106 ㊵ CAMERA REC



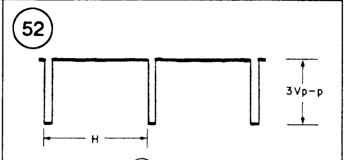
IC105 (69) CAMERA REC



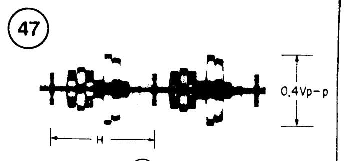
IC106 ㊻ CAMERA REC



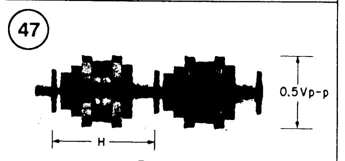
IC105 (69) REC/PB



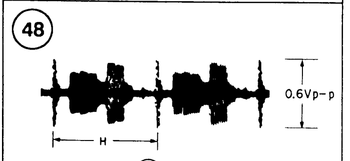
IC106 ㊼ CAMERA REC



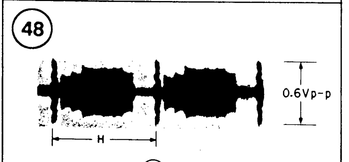
IC106 ⑩ CAMERA REC



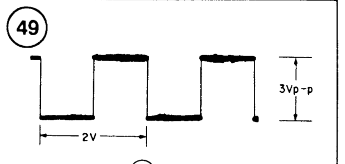
IC106 ⑩ REC/PB



IC106 ⑭ CAMERA REC



IC106 ⑭ REC



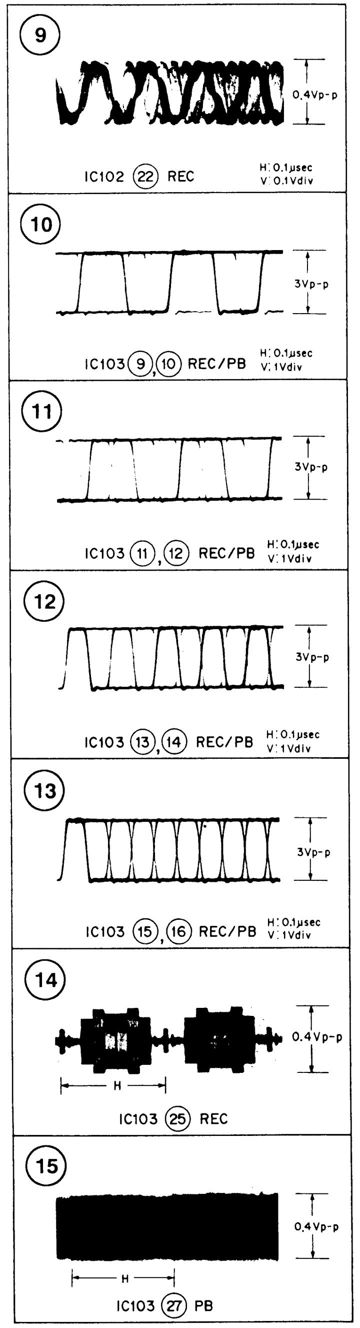
IC106 ㉙ CAMERA REC

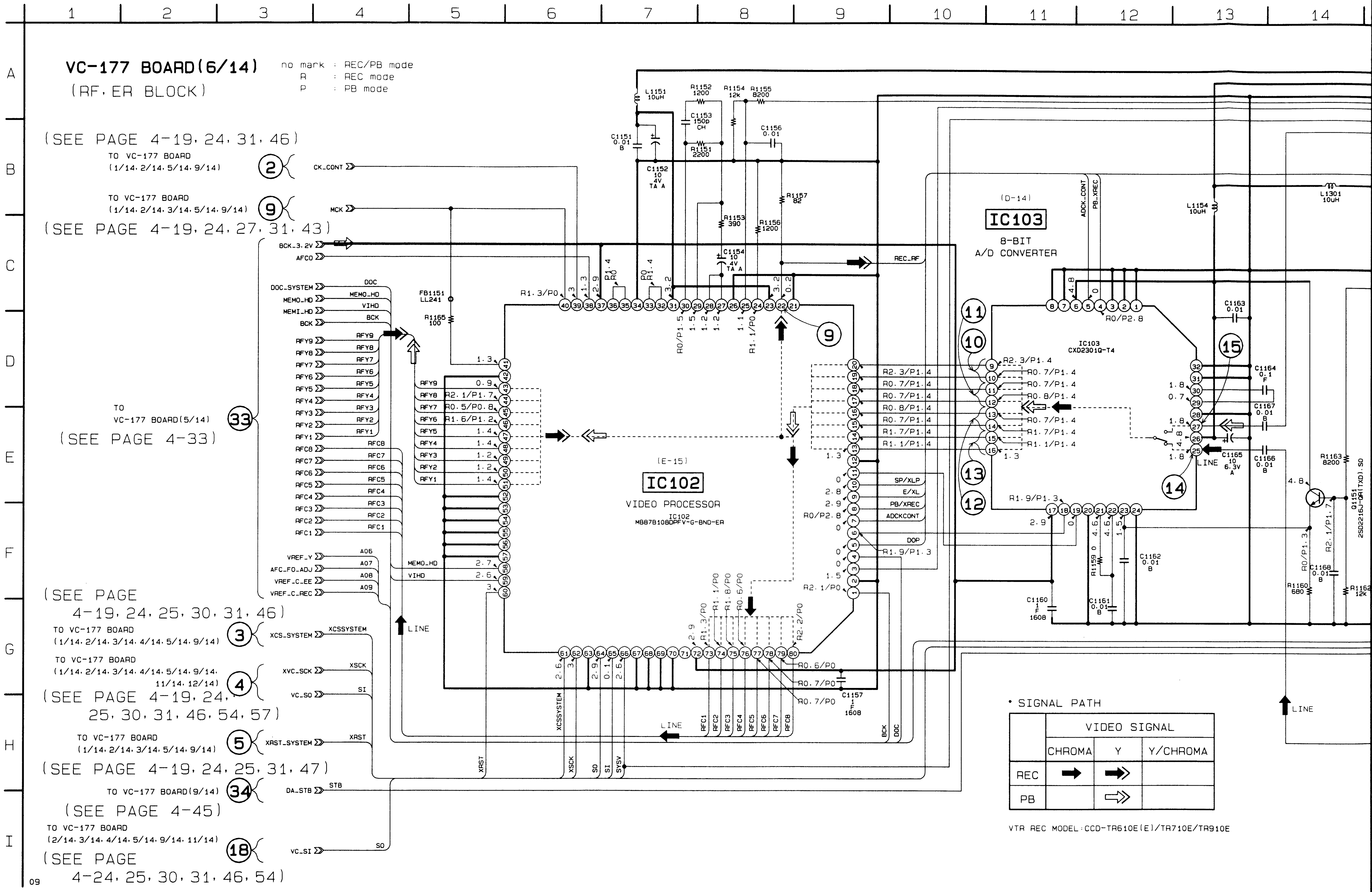
VC-177 (VIDEO PROCESS (1)) SCHEMATIC DIAGRAM

— Ref No. VC-177 BOARD: 10,000 series —

• Refer to page 4 – 13 for Printed Wiring Board.

VC-177 BOARD (RF BLOCK)





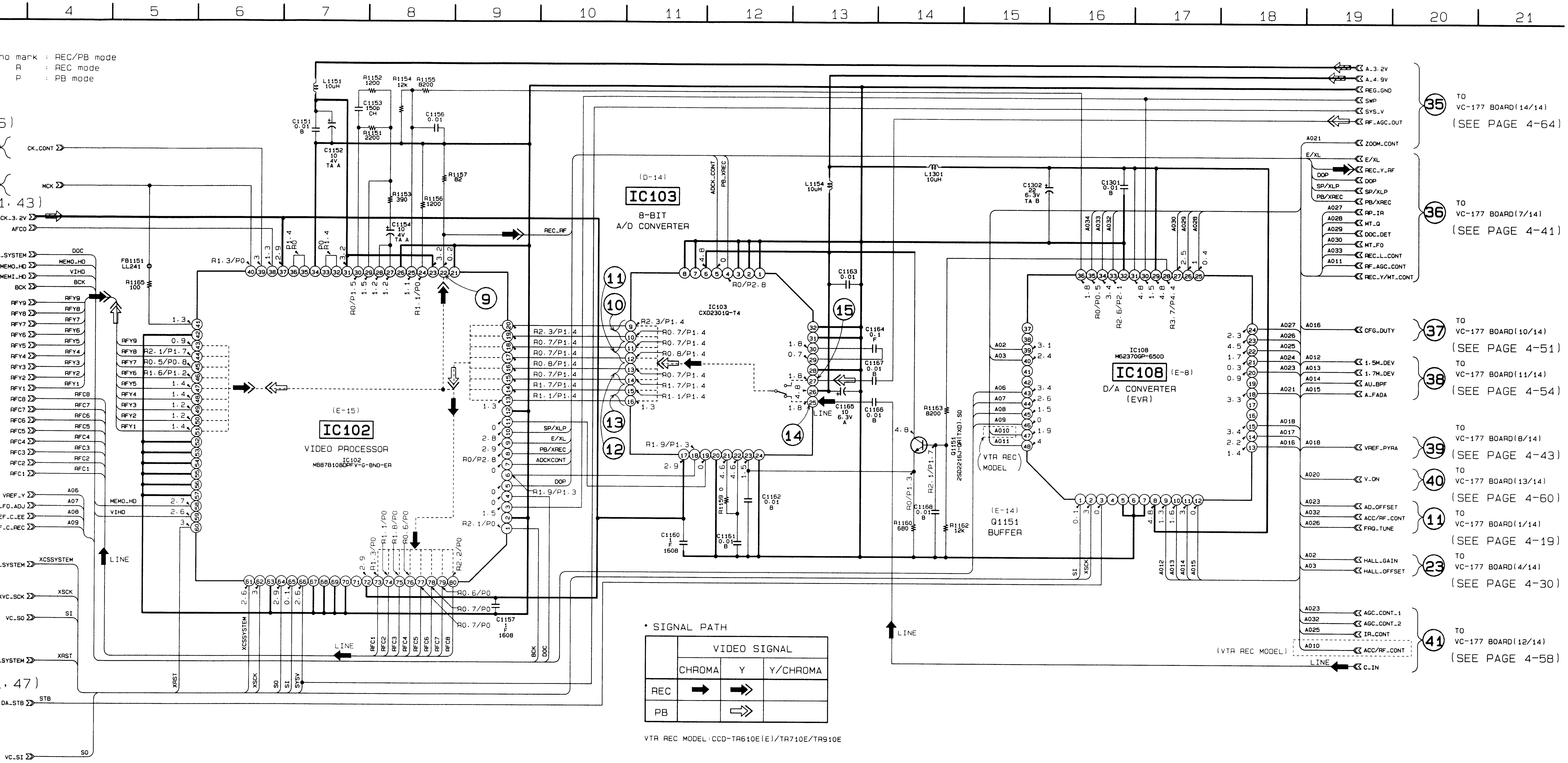
1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I
VC-177 BOARD (6/14)
(RF, ER BLOCK)
no mark : REC/PB mode
R : REC mode
P : PB mode
(SEE PAGE 4-19, 24, 31, 46)
TO VC-177 BOARD (1/14, 2/14, 5/14, 9/14) ② CK_CONT
TO VC-177 BOARD (1/14, 2/14, 3/14, 5/14, 9/14) ⑨ MCK
(SEE PAGE 4-19, 24, 27, 31, 43)
BCK_3.2V
AFCO
DOC_SYSTEM
MEMO_HD
MEMI_HD
BCK
RFY9 RFY8 RFY7 RFY6 RFY5 RFY4 RFY3 RFY2 RFY1
RFC8 RFC7 RFC6 RFC5 RFC4 RFC3 RFC2 RFC1
TO VC-177 BOARD (5/14) ㉝
(SEE PAGE 4-33)
VREF_Y
AFC_FO_ADJ
VREF_C_EE
VREF_C_REC
A06 A07 A08 A09
(SEE PAGE 4-19, 24, 25, 30, 31, 46)
TO VC-177 BOARD (1/14, 2/14, 3/14, 4/14, 5/14, 9/14) ③ XCS_SYSTEM
TO VC-177 BOARD (1/14, 2/14, 3/14, 4/14, 5/14, 9/14, 11/14, 12/14) ④ XVC_SCK VC_SO
(SEE PAGE 4-19, 24, 25, 30, 31, 46, 54, 57)
TO VC-177 BOARD (1/14, 2/14, 3/14, 5/14, 9/14) ⑤ XRST_SYSTEM
(SEE PAGE 4-19, 24, 25, 31, 47)
TO VC-177 BOARD (9/14) ㉞ DA_STB
(SEE PAGE 4-45)
TO VC-177 BOARD (2/14, 3/14, 4/14, 5/14, 9/14, 11/14) ⑱ VC_SI
(SEE PAGE 4-24, 25, 30, 31, 46, 54)
FB1151 LL241
R1165 100
L1151 10uH
C1151 0.01 B
R1152 1200
C1153 150p CH
R1151 2200
R1154 12k
R1155 8200
C1156 0.01
C1152 10 4V TA A
R1157 82
R1153 390
R1156 1200
C1154 10 4V TA A
REC_RF
(E-15)
IC102
VIDEO PROCESSOR
IC102 MB87B108DPFV-G-BND-ER
SP/XLP E/XL PB/XREC ADCKCONT DOP
R2.3/P1.4 R0.7/P1.4 R0.8/P1.4 R1.7/P1.4 R1.1/P1.4
R1.9/P1.3
R2.1/P0
R0.6/P0 R0.7/P0
C1157 1 F 1608
XCSSYSTEM XSCK SO SI SYSV XRST BCK DOC
LINE
(D-14)
IC103
8-BIT A/D CONVERTER
IC103 CXD2301Q-T4
ADCK_CONT PB_XREC
R0/P2.8
L1154 10uH
L1301 10uH
C1163 0.01
C1164 0.1 F
C1167 0.01 B
C1165 10 6.3V A
C1166 0.01 B
C1162 0.01 B
C1160 1 F 1608
C1161 0.01 B
R1159 0
R1160 680
C1168 0.01 B
R1163 8200
R1162 12k
Q1151 2SD2216J-QR(TX).SO
09
VTR REC MODEL: CCD-TR610E(E)/TR710E/TR910E

• SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡	➡»	
PB		⇨»	

IC DIAGRAM

• Refer to page 4 – 13 for Printed Wiring Board.

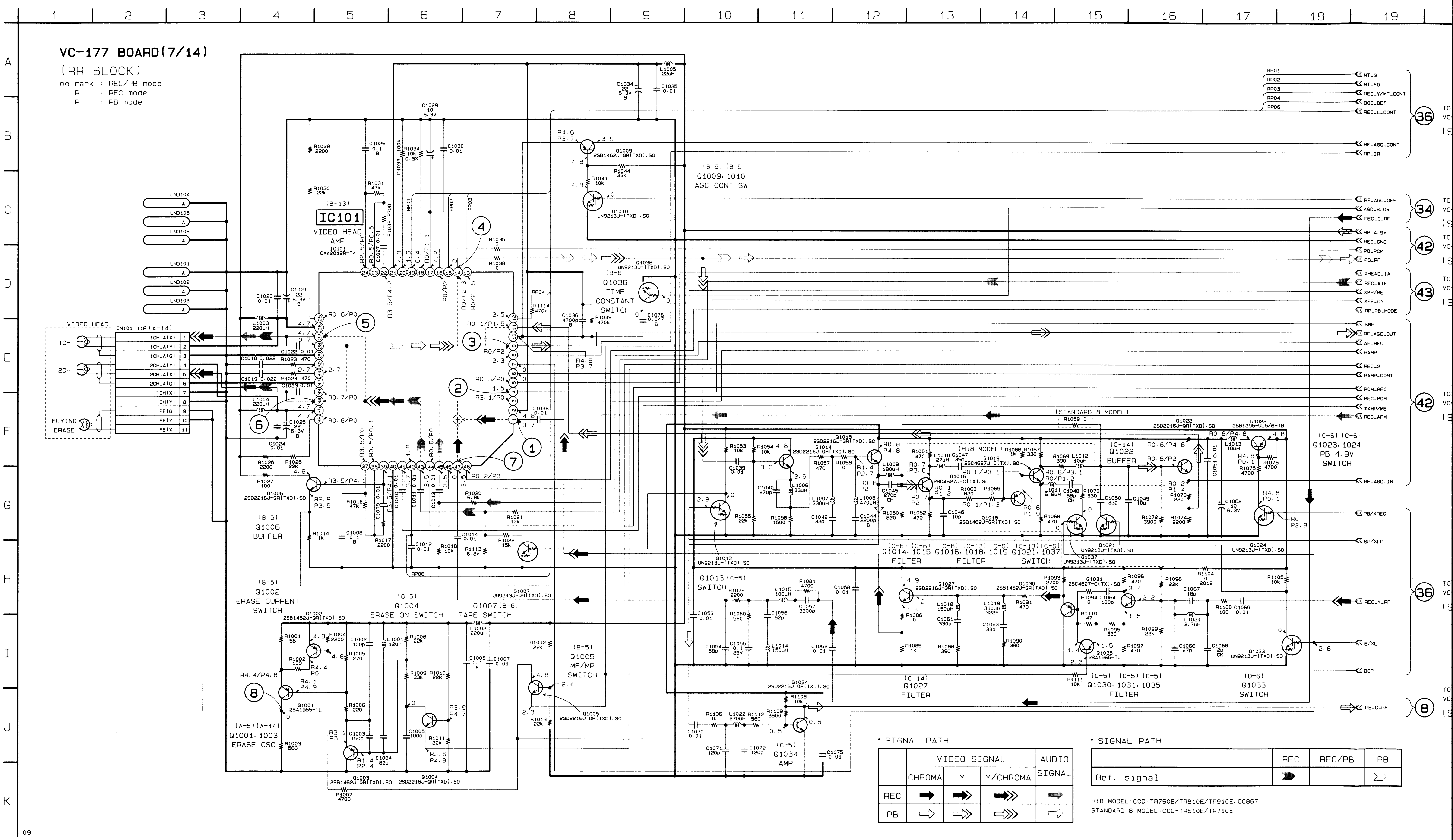


4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
no mark : REC/PB mode
R : REC mode
P : PB mode
IC102
VIDEO PROCESSOR
IC102 MB87810BDPFV-G-BND-ER
(E-15)
IC103
8-BIT A/D CONVERTER
IC103 CXD2301Q-T4
(D-14)
IC108
D/A CONVERTER (EVR)
IC108 M62370GP-650D
(E-8)
(E-14) Q1151 BUFFER
Q1151 2SD2216J-QR(TX).SO
L1151 10uH
R1152 1200
R1154 12k
R1155 8200
C1151 0.01 B
C1152 10 4V TA A
C1153 150p CH
R1151 2200
C1156 0.01
R1157 82
R1153 390
R1156 1200
C1154 10 4V TA A
FB1151 LL241
R1165 100
C1157 1 F 1608
C1160 1 F 1608
C1161 0.01 B
R1159 0
C1162 0.01 B
C1163 0.01
C1164 0.1 F
C1165 10 6.3V A
C1166 0.01 B
C1167 0.01 B
L1154 10uH
L1301 10uH
C1302 22 6.3V TA B
C1301 0.01 B
R1163 8200
R1160 680
C1168 0.01 B
R1162 12k
VTR REC MODEL
REC_RF
LINE
A_3.2V
A_4.9V
REG_GND
SWP
SYS_V
RF_AGC_OUT
ZOOM_CONT
E/XL
REC_Y_RF
DOP
SP/XLP
PB/XREC
RP_IR
MT_Q
DOC_DET
MT_FO
REC_L_CONT
RF_AGC_CONT
REC_Y/MT_CONT
CFG_DUTY
1.5M_DEV
1.7M_DEV
AU_BPF
A_FADA
VREF_PYRA
V_ON
AD_OFFSET
ACC/RF_CONT
FRQ_TUNE
HALL_GAIN
HALL_OFFSET
AGC_CONT_1
AGC_CONT_2
IR_CONT
ACC/RF_CONT
C_IN
(VTR REC MODEL)
35 TO VC-177 BOARD(14/14) (SEE PAGE 4-64)
36 TO VC-177 BOARD(7/14) (SEE PAGE 4-41)
37 TO VC-177 BOARD(10/14) (SEE PAGE 4-51)
38 TO VC-177 BOARD(11/14) (SEE PAGE 4-54)
39 TO VC-177 BOARD(8/14) (SEE PAGE 4-43)
40 TO VC-177 BOARD(13/14) (SEE PAGE 4-60)
11 TO VC-177 BOARD(1/14) (SEE PAGE 4-19)
23 TO VC-177 BOARD(4/14) (SEE PAGE 4-30)
41 TO VC-177 BOARD(12/14) (SEE PAGE 4-58)
CK_CONT
MCK
CK_3.2V
AFCO
SYSTEM
MEMO_HD
MEMI_HD
BCK
RFY9
RFY8
RFY7
RFY6
RFY5
RFY4
RFY3
RFY2
RFY1
RFC8
RFC7
RFC6
RFC5
RFC4
RFC3
RFC2
RFC1
VREF_Y
FO_ADJ
EF_C_EE
F_C_REC
XCSSYSTEM
XSCK
SI
XRST
STB
SO
XVC_SCK
VC_SO
DA_STB
VC_SI
• SIGNAL PATH
VIDEO SIGNAL
CHROMA
Y
Y/CHROMA
REC
PB
VTR REC MODEL:CCD-TR610E(E)/TR710E/TR910E

VC-177 (REC/PB HEAD AMP) SCHEMATIC DIAGRAM

— Ref No. VC-177 BOARD: 10,000 series —

- Refer to page 4 – 13 for Printed Wiring Board.


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
A B C D E F G H I J K
VC-177 BOARD(7/14)
(RR BLOCK)
no mark : REC/PB mode
R : REC mode
P : PB mode
VIDEO HEAD
1CH
2CH
FLYING ERASE
CN101 11P (A-14)
1CH_A(X)
1CH_A(Y)
1CH_A(G)
2CH_A(Y)
2CH_A(X)
2CH_A(G)
'CH(X)
'CH(Y)
FE(G)
FE(Y)
FE(X)
LND104
LND105
LND106
LND101
LND102
LND103
(B-13)
IC101
VIDEO HEAD AMP
IC101 CXA2012R-T4
(B-6) (B-5)
Q1009, 1010
AGC CONT SW
Q1009 2SB1462J-QR(TXD).SO
Q1010 UN9213J-(TXD).SO
(B-6)
Q1036
TIME CONSTANT SWITCH
Q1036 UN9213J-(TXD).SO
(B-5)
Q1006
BUFFER
Q1006 2SD2216J-QR(TXD).SO
(B-5)
Q1002
ERASE CURRENT SWITCH
Q1002 2SB1462J-QR(TXD).SO
(B-5)
Q1004
ERASE ON SWITCH
Q1007 (B-6)
TAPE SWITCH
Q1007 UN9213J-QR(TXD).SO
(B-5)
Q1005
ME/MP SWITCH
Q1005 2SD2216J-QR(TXD).SO
(A-5) (A-14)
Q1001, 1003
ERASE OSC
Q1001 2SA1965-TL
Q1003 2SB1462J-QR(TXD).SO
Q1004 2SD2216J-QR(TXD).SO
(C-6) (C-6) (C-6) (C-13) (C-6) (C-13) (C-6)
Q1014, 1015 Q1016, 1018, 1019 Q1021, 1037
FILTER FILTER SWITCH
Q1013 UN9213J-(TXD).SO
Q1013 (C-5)
SWITCH
(STANDARD 8 MODEL)
(Hi8 MODEL)
(C-14)
Q1022
BUFFER
Q1022 2SD2216J-QR(TXD).SO
Q1023 2SB1295-U15/6-TB
(C-6) (C-6)
Q1023, 1024
PB 4.9V SWITCH
Q1024 UN9213J-(TXD).SO
(C-14)
Q1027
FILTER
(C-5) (C-5) (C-5)
Q1030, 1031, 1035
FILTER
(D-6)
Q1033
SWITCH
Q1033 UN9213J-(TXD).SO
Q1034 2SD2216J-QR(TXD).SO
(C-5)
Q1034
AMP
RP01
RP02
RP03
RP04
RP06
MT_Q
MT_FO
REC_Y/MT_CONT
DOC_DET
REC_L_CONT
RF_AGC_CONT
RP_IR
RF_AGC_OFF
AGC_SLOW
REC_C_RF
RP_4.9V
REG_GND
PB_PCM
PB_RF
XHEAD_1A
REC_ATF
XMP/ME
XFE_ON
RP_PB_MODE
SWP
RF_AGC_OUT
AF_REC
RAMP
REC_2
RAMP_CONT
PCM_REC
REC_PCM
XMP/ME
REC_AFM
RF_AGC_IN
PB/XREC
SP/XLP
REC_Y_RF
E/XL
DOP
PB_C_RF
36
34
42
43
42
36
8
1
2
3
4
5
6
7
8
09

• SIGNAL PATH

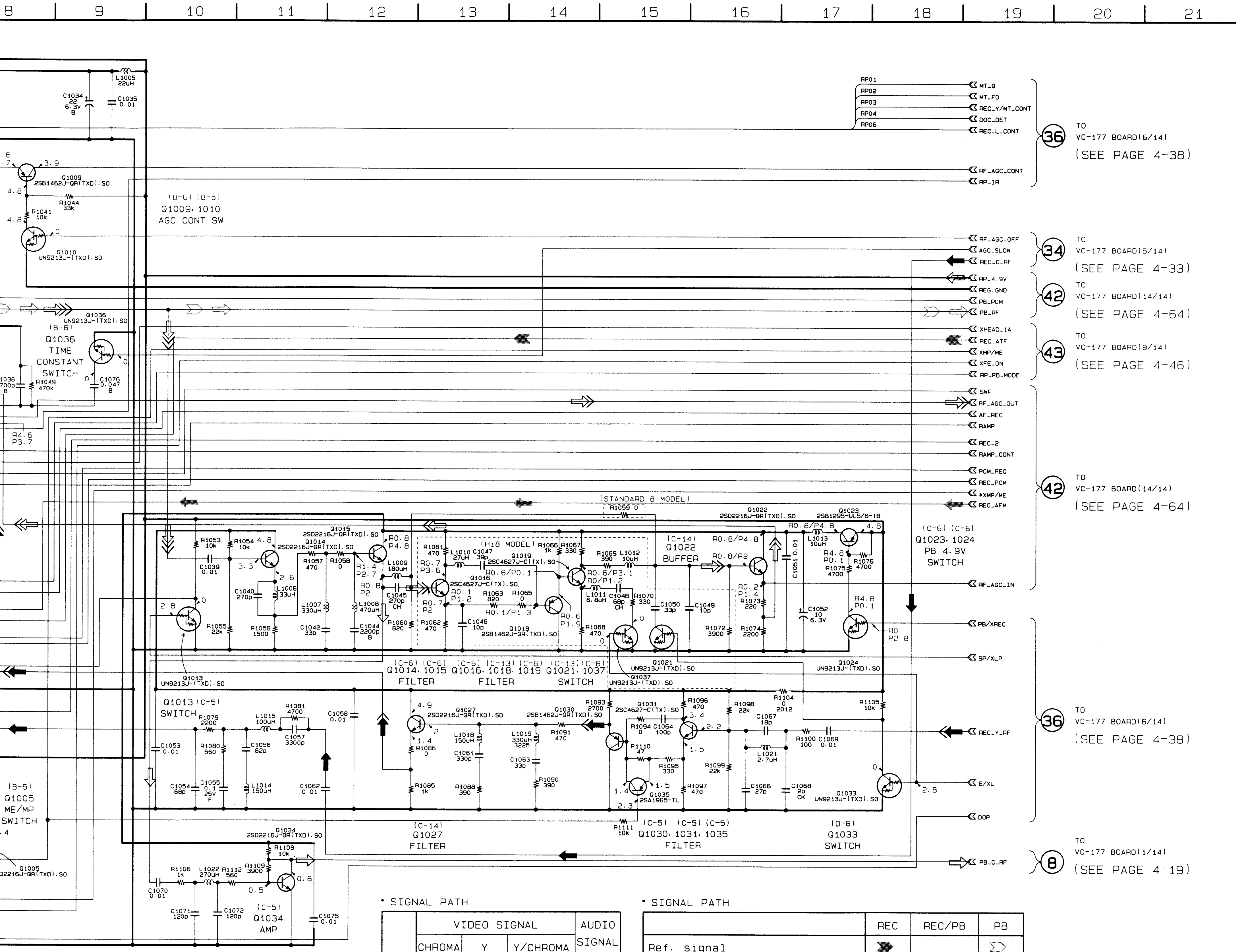
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡»	➡»»	➡
PB	⇨	⇨»	⇨»»	⇨

• SIGNAL PATH

	REC	REC/PB	PB
Ref. signal	➤		▷

Hi8 MODEL : CCD-TR760E/TR810E/TR910E, CC867
STANDARD 8 MODEL : CCD-TR610E/TR710E

ing Board.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21
L1005 22uH
C1034 22 6.3V B
C1035 0.01
Q1009 2SB1462J-QR(TXD).SO
R1044 33k
R1041 10k
Q1010 UN9213J-(TXD).SO
(B-6) (B-5) Q1009, 1010 AGC CONT SW
Q1036 UN9213J-(TXD).SO
(B-6) Q1036 TIME CONSTANT SWITCH
R1049 470k
C1076 0.047 B
R4.6 P3.7
RP01
RP02
RP03
RP04
RP06
MT_Q
MT_FO
REC_Y/MT_CONT
DOC_DET
REC_L_CONT
RF_AGC_CONT
RP_IR
RF_AGC_OFF
AGC_SLOW
REC_C_RF
RP_4.9V
REG_GND
PB_PCM
PB_RF
XHEAD_1A
REC_ATF
XMP/ME
XFE_ON
RP_PB_MODE
SWP
RF_AGC_OUT
AF_REC
RAMP
REC_2
RAMP_CONT
PCM_REC
REC_PCM
*XMP/ME
REC_AFM
RF_AGC_IN
PB/XREC
SP/XLP
REC_Y_RF
E/XL
DOP
PB_C_RF
36
TO VC-177 BOARD(6/14)
(SEE PAGE 4-38)
34
TO VC-177 BOARD(5/14)
(SEE PAGE 4-33)
42
TO VC-177 BOARD(14/14)
(SEE PAGE 4-64)
43
TO VC-177 BOARD(9/14)
(SEE PAGE 4-46)
42
TO VC-177 BOARD(14/14)
(SEE PAGE 4-64)
36
TO VC-177 BOARD(6/14)
(SEE PAGE 4-38)
8
TO VC-177 BOARD(1/14)
(SEE PAGE 4-19)
(STANDARD 8 MODEL)
R1059 0
(Hi8 MODEL)
Q1015 2SD2216J-QR(TXD).SO
Q1014 2SD2216J-QR(TXD).SO
Q1016 2SC4627J-C(TX).SO
Q1019 2SC4627J-C(TX).SO
Q1018 2SB1462J-QR(TXD).SO
Q1021 UN9213J-(TXD).SO
Q1037 UN9213J-(TXD).SO
Q1013 UN9213J-(TXD).SO
Q1022 2SD2216J-QR(TXD).SO
Q1023 2SB1295-UL5/6-TB
Q1024 UN9213J-(TXD).SO
(C-14) Q1022 BUFFER
(C-6) (C-6) Q1023, 1024 PB 4.9V SWITCH
(C-6) (C-6) (C-6) (C-13) (C-6) (C-13) (C-6)
Q1014, 1015 FILTER
Q1016, 1018, 1019 FILTER
Q1021, 1037 SWITCH
Q1013 (C-5) SWITCH
Q1027 2SD2216J-QR(TXD).SO
Q1030 2SB1462J-QR(TXD).SO
Q1031 2SC4627-C(TX).SO
Q1035 2SA1965-TL
Q1033 UN9213J-(TXD).SO
(C-14) Q1027 FILTER
(C-5) (C-5) (C-5) Q1030, 1031, 1035 FILTER
(D-6) Q1033 SWITCH
(B-5) Q1005 ME/MP SWITCH
Q1005 2SD2216J-QR(TXD).SO
Q1034 2SD2216J-QR(TXD).SO
(C-5) Q1034 AMP
R1053 10k
R1054 10k
C1039 0.01
C1040 270p
L1006 33uH
R1057 470
R1058 0
L1007 330uH
R1055 22k
R1056 1500
C1042 33p
L1008 470uH
C1044 2200p B
L1009 180uH
C1045 270p CH
R1060 820
R1061 470
L1010 27uH
C1047 39p
R1062 470
C1046 10p
R1063 820
R1065 0
R1066 1k
R1067 330
R1069 390
L1012 10uH
L1011 6.8uH
C1048 68p CH
R1070 330
C1050 33p
C1049 10p
R1072 3900
R1073 220
R1074 2200
C1051 0.01
L1013 10uH
R1075 4700
R1076 4700
C1052 10 6.3V
R1079 2200
L1015 100uH
R1081 4700
C1057 3300p
C1058 0.01
C1053 0.01
R1080 560
C1056 82p
C1054 68p
C1055 0.1 25V F
L1014 150uH
C1062 0.01
R1086 0
R1085 1k
L1018 150uH
C1061 330p
R1088 390
L1019 330uH 3225
C1063 33p
R1090 390
R1091 470
R1093 2700
R1094 0
C1064 100p
R1110 47
R1095 330
R1096 470
R1097 470
R1098 22k
R1099 22k
R1104 0 2012
C1067 18p
R1100 100
C1069 0.01
L1021 2.7uH
C1066 27p
C1068 2p CK
R1105 10k
R1111 10k
R1106 1k
L1022 270uH
R1112 560
R1109 3900
R1108 10k
C1070 0.01
C1071 120p
C1072 120p
C1075 0.01

• SIGNAL PATH

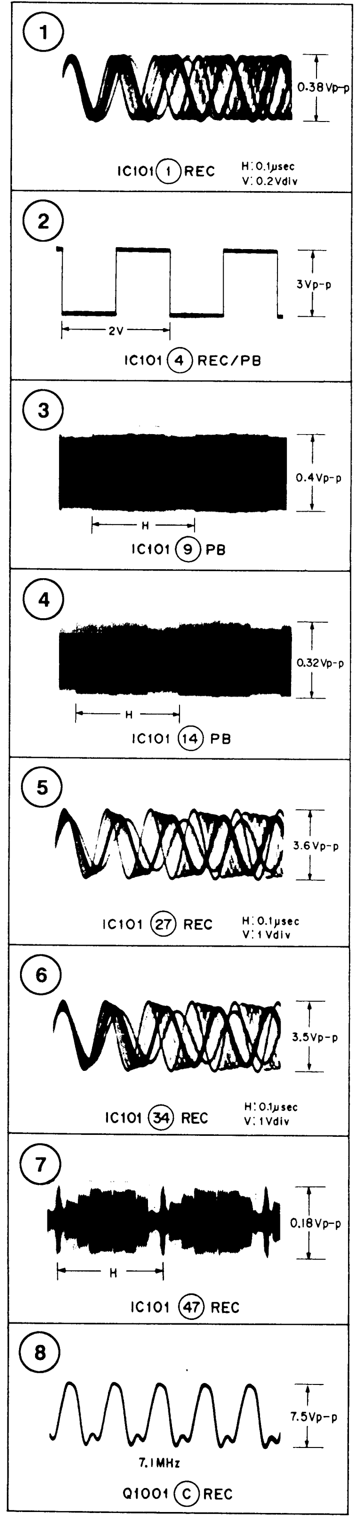
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡»	➡»»	➡
PB	⇨	⇨»	⇨»»	⇨

• SIGNAL PATH

	REC	REC/PB	PB
Ref. signal	➤		⊳

Hi8 MODEL:CCD-TR760E/TR810E/TR910E, CCB67
STANDARD 8 MODEL:CCD-TR610E/TR710E

VC-177 BOARD (RR BLOCK)



REC/PB HEAD AMP

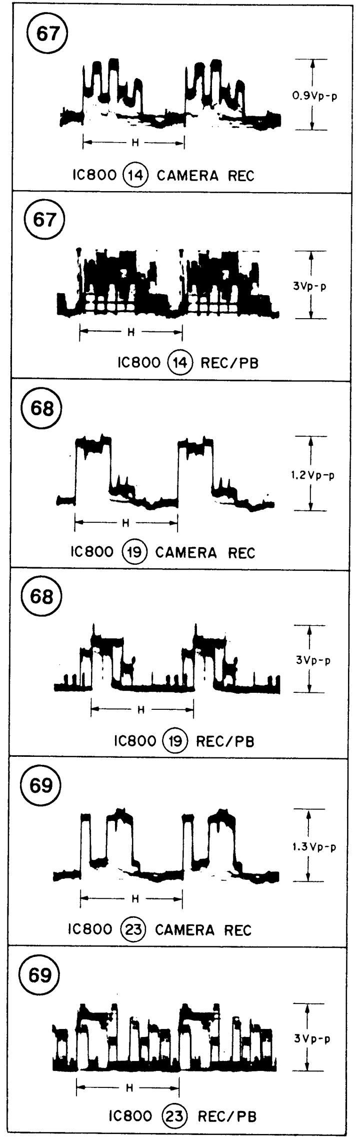
VC-177 (7/14)

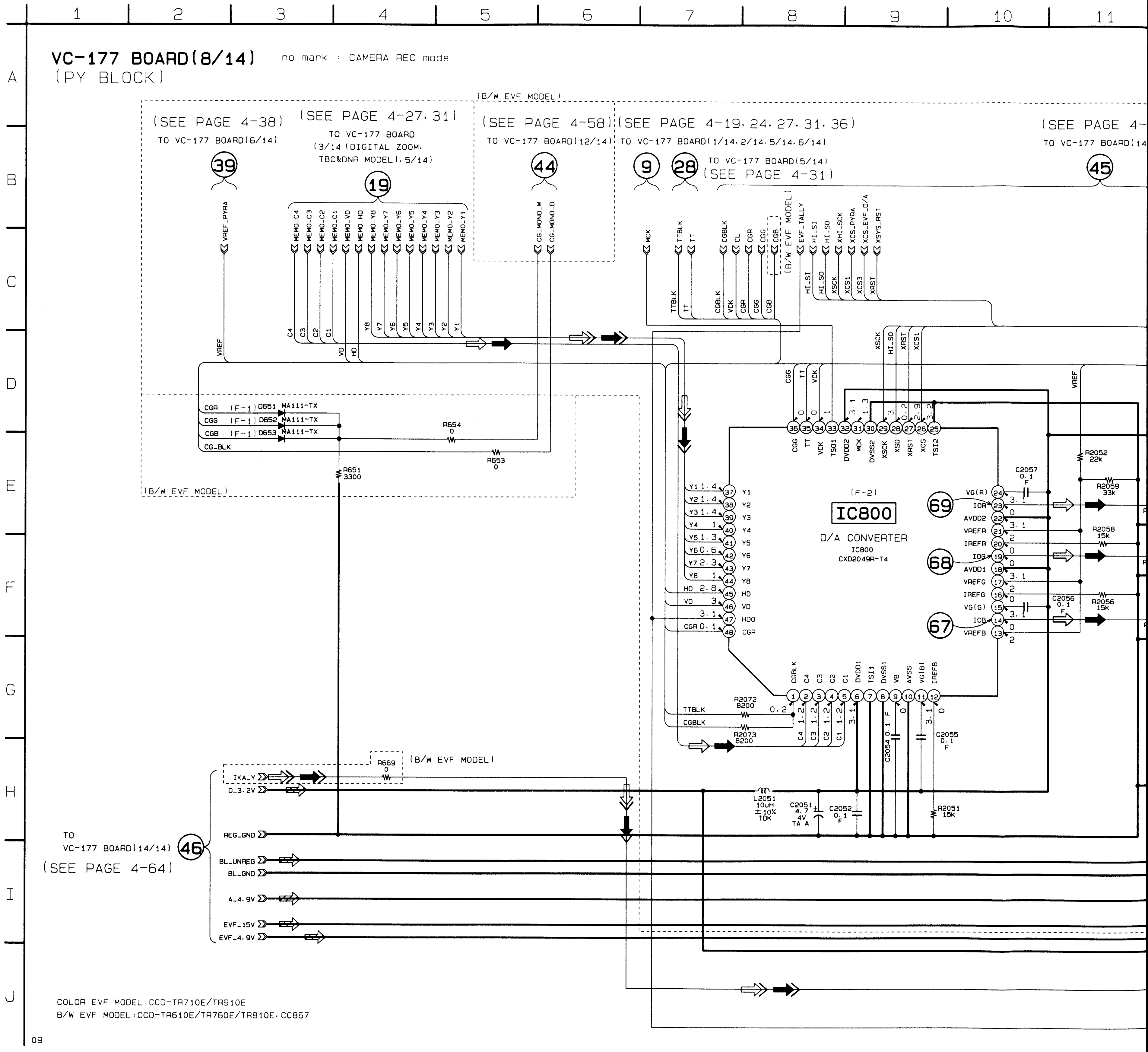
VC-177 (VIDEO PROCESS (2)) SCHEMATIC DIAGRAM

— Ref No. VC-177 BOARD: 10,000 series —

• Refer to page 4 – 13 for Printed Wiring Board.

VC-177 BOARD (PY BLOCK)

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9
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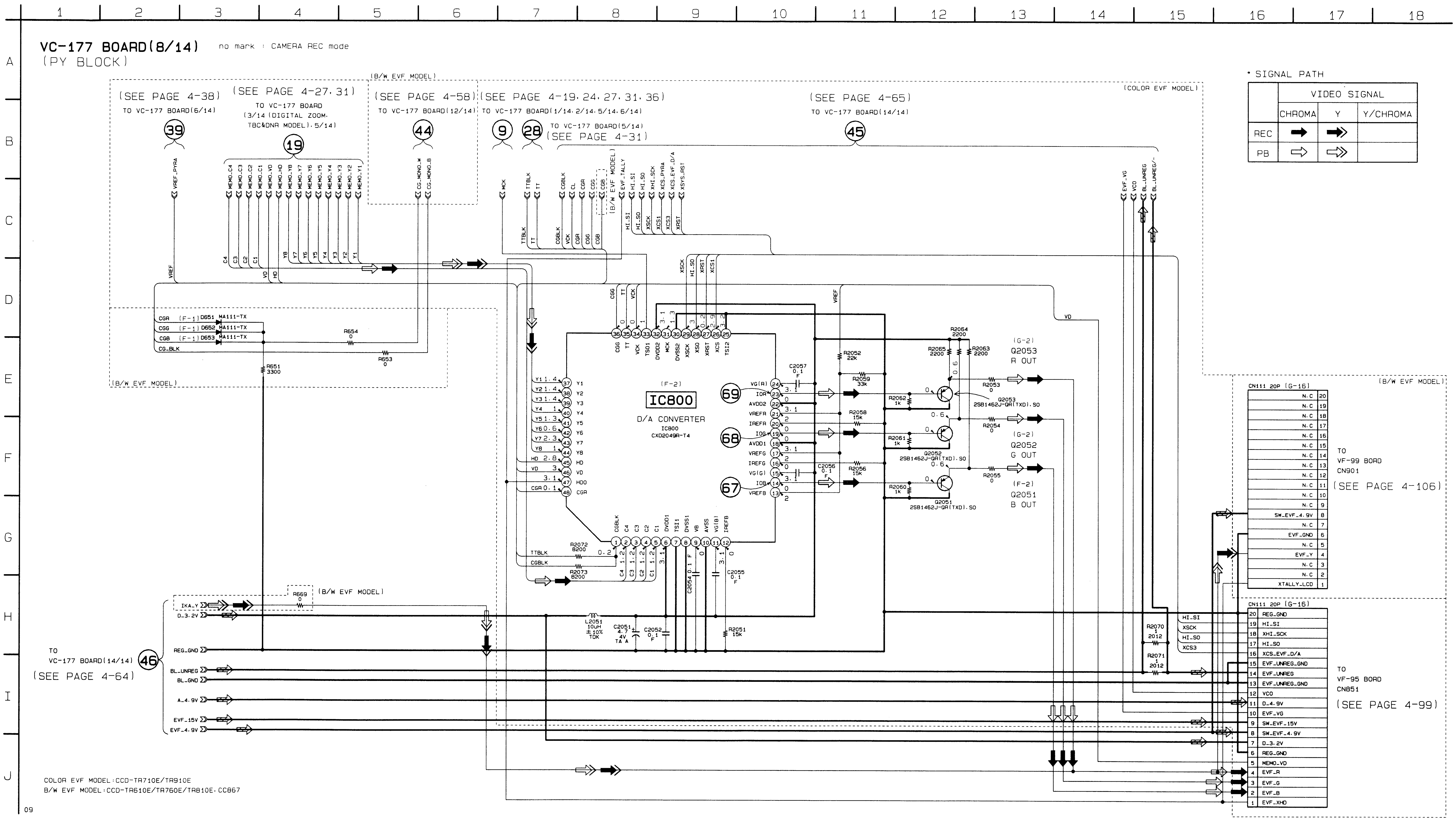
11
A
B
C
D
E
F
G
H
I
J
VC-177 BOARD(8/14)
(PY BLOCK)
no mark : CAMERA REC mode
(SEE PAGE 4-38)
TO VC-177 BOARD(6/14)
39
(SEE PAGE 4-27, 31)
TO VC-177 BOARD
(3/14 (DIGITAL ZOOM,
TBC&DNR MODEL), 5/14)
19
(B/W EVF MODEL)
(SEE PAGE 4-58)
TO VC-177 BOARD(12/14)
44
(SEE PAGE 4-19, 24, 27, 31, 36)
TO VC-177 BOARD(1/14, 2/14, 5/14, 6/14)
9
28
TO VC-177 BOARD(5/14)
(SEE PAGE 4-31)
(SEE PAGE 4-
TO VC-177 BOARD(14
45
VREF_PYRA
MEMO_C4
MEMO_C3
MEMO_C2
MEMO_C1
MEMO_VD
MEMO_HD
MEMO_Y8
MEMO_Y7
MEMO_Y6
MEMO_Y5
MEMO_Y4
MEMO_Y3
MEMO_Y2
MEMO_Y1
CG_MONO_W
CG_MONO_B
MCK
TTBLK
TT
CGBLK
CL
CGR
CGG
CGB
(B/W EVF MODEL)
EVF_TALLY
HI_SI
HI_SO
XHI_SCK
XCS_PYRA
XCS_EVF_D/A
XSYS_RST
D651 MA111-TX
D652 MA111-TX
D653 MA111-TX
CG_BLK
R654 0
R653 0
R651 3300
(F-2)
IC800
D/A CONVERTER
IC800
CXD2049R-T4
Y1
Y2
Y3
Y4
Y5
Y6
Y7
Y8
HD
VD
HDO
CGR
VG(R)
IOR
AVDD2
VREFR
IREFR
IOG
AVDD1
VREFG
IREFG
VG(G)
IOB
VREFB
69
68
67
C2057 0.1 F
R2052 22K
R2059 33k
R2058 15k
C2056 0.1 F
R2056 15k
R2072 8200
R2073 8200
TTBLK
CGBLK
C2054 0.1 F
C2055 0.1 F
L2051 10uH ±10% TDK
C2051 4.7 4V TA A
C2052 0.1 F
R2051 15K
R669 0
(B/W EVF MODEL)
IKA_Y
D_3.2V
REG_GND
BL_UNREG
BL_GND
A_4.9V
EVF_15V
EVF_4.9V
TO
VC-177 BOARD(14/14)
46
(SEE PAGE 4-64)
COLOR EVF MODEL:CCD-TR710E/TR910E
B/W EVF MODEL:CCD-TR610E/TR760E/TR810E, CC867
09

VC-177 (VIDEO PROCESS (2)) SCHEMATIC DIAGRAM

— Ref No. VC-177 BOARD: 10.000 series —

• Refer to page 4 – 13 for Printed Wiring Board.


VC-177 BOARD(8/14)
(PY BLOCK)
no mark : CAMERA REC mode
(SEE PAGE 4-38) TO VC-177 BOARD(6/14) 39
(SEE PAGE 4-27, 31) TO VC-177 BOARD (3/14 (DIGITAL ZOOM, TBC&DNR MODEL), 5/14) 19
(B/W EVF MODEL) (SEE PAGE 4-58) TO VC-177 BOARD(12/14) 44
(SEE PAGE 4-19, 24, 27, 31, 36) TO VC-177 BOARD(1/14, 2/14, 5/14, 6/14) 9
28 TO VC-177 BOARD(5/14) (SEE PAGE 4-31)
(SEE PAGE 4-65) TO VC-177 BOARD(14/14) 45
(COLOR EVF MODEL)
VREF_PYRA
MEMO_C4 MEMO_C3 MEMO_C2 MEMO_C1 MEMO_VD MEMO_HD MEMO_Y8 MEMO_Y7 MEMO_Y6 MEMO_Y5 MEMO_Y4 MEMO_Y3 MEMO_Y2 MEMO_Y1
CG_MONO_W CG_MONO_B
MCK TTBLK TT CGBLK CL CGR CGG CGB EVF_TALLY HI_SI HI_SO XHI_SCK XCS_PYRA XCS_EVF_D/A XSYS_RST
EVF_VG VCO BL_UNREG BL_UNREG/-
CGR (F-1) D651 MA111-TX
CGG (F-1) D652 MA111-TX
CGB (F-1) D653 MA111-TX
CG_BLK
R654 0
R653 0
R651 3300
(B/W EVF MODEL)
(F-2) IC800 D/A CONVERTER IC800 CXD2049A-T4
69 68 67
R2064 2200
R2065 2200
R2063 2200
(G-2) Q2053 R OUT
R2053 0
Q2053 2SB1462J-QR(TXD).SO
(G-2) Q2052 G OUT
R2054 0
Q2052 2SB1462J-QR(TXD).SO
(F-2) Q2051 B OUT
R2055 0
Q2051 2SB1462J-QR(TXD).SO
R2052 22k
R2059 33k
R2058 15k
R2056 15k
R2062 1k
R2061 1k
R2060 1k
C2057 0.1 F
C2056 0.1 F
R2072 8200
R2073 8200
C2054 0.1 F
C2055 0.1 F
L2051 10uH ±10% TDK
C2051 4.7 4V TA
C2052 0.1 F
R2051 15k
R669 0
(B/W EVF MODEL)
IKA_Y D_3.2V REG_GND BL_UNREG BL_GND A_4.9V EVF_15V EVF_4.9V
TO VC-177 BOARD(14/14) 46 (SEE PAGE 4-64)
CN111 20P (G-16)
(B/W EVF MODEL)
TO VF-99 BORD CN901 (SEE PAGE 4-106)
CN111 20P (G-16)
TO VF-95 BORD CN851 (SEE PAGE 4-99)
R2070 2012
R2071 2012
HI_SI XSCK HI_SO XCS3
COLOR EVF MODEL:CCD-TR710E/TR910E
B/W EVF MODEL:CCD-TR610E/TR760E/TR810E, CCB67
09

• SIGNAL PATH

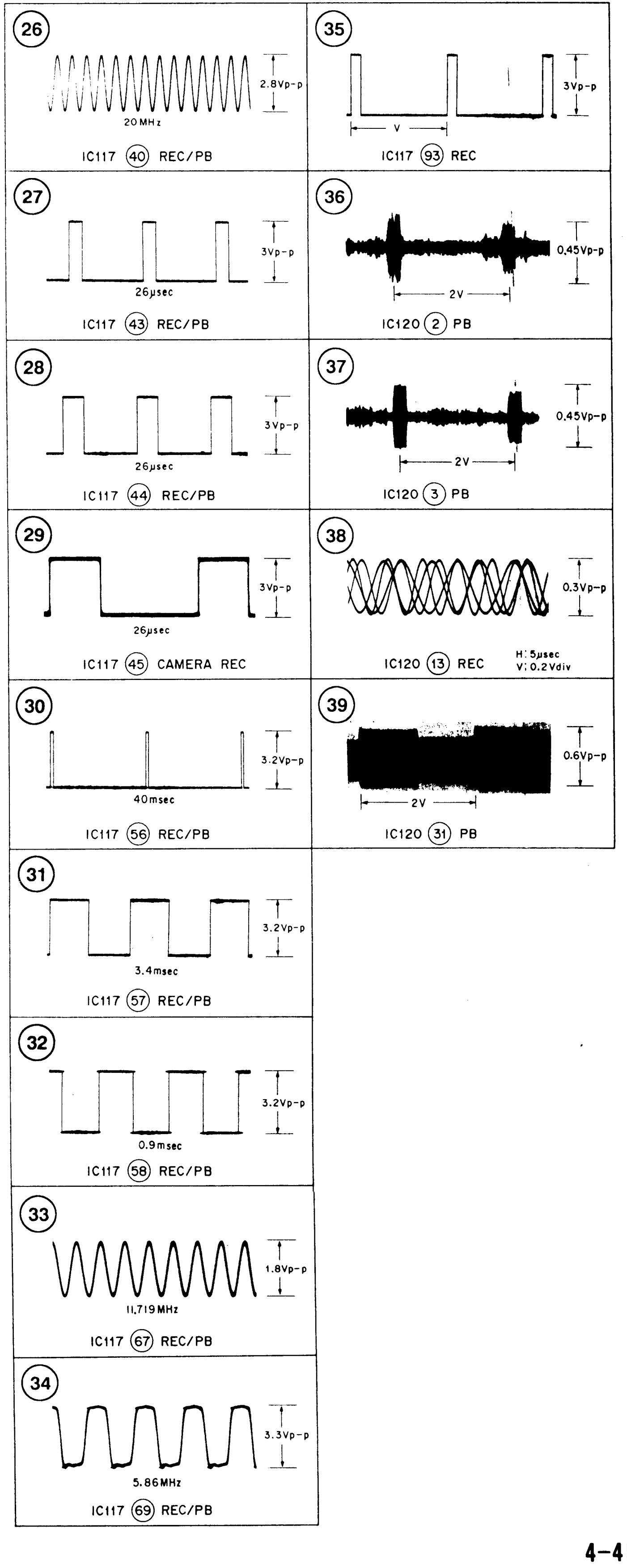
	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡	➡	
PB	⇨	⇨	

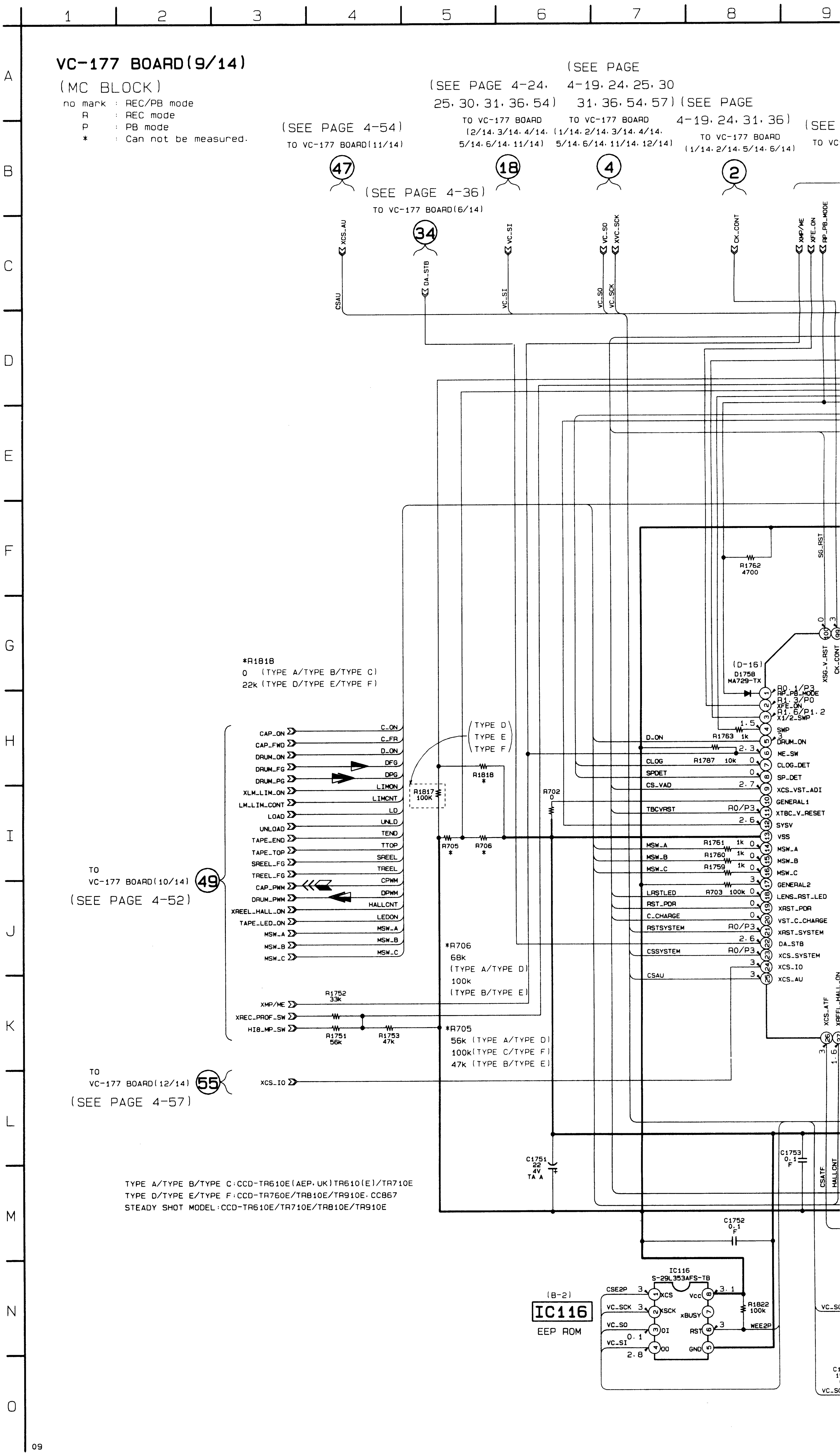
VC-177 (SERVO/SYSTEM CONTROL) SCHEMATIC DIAGRAM

• Refer to page 4 – 13 for Printed Wiring Board.

— Ref No. VC-177 BOARD: 10,000 series —

VC-177 BOARD (MC BLOCK)





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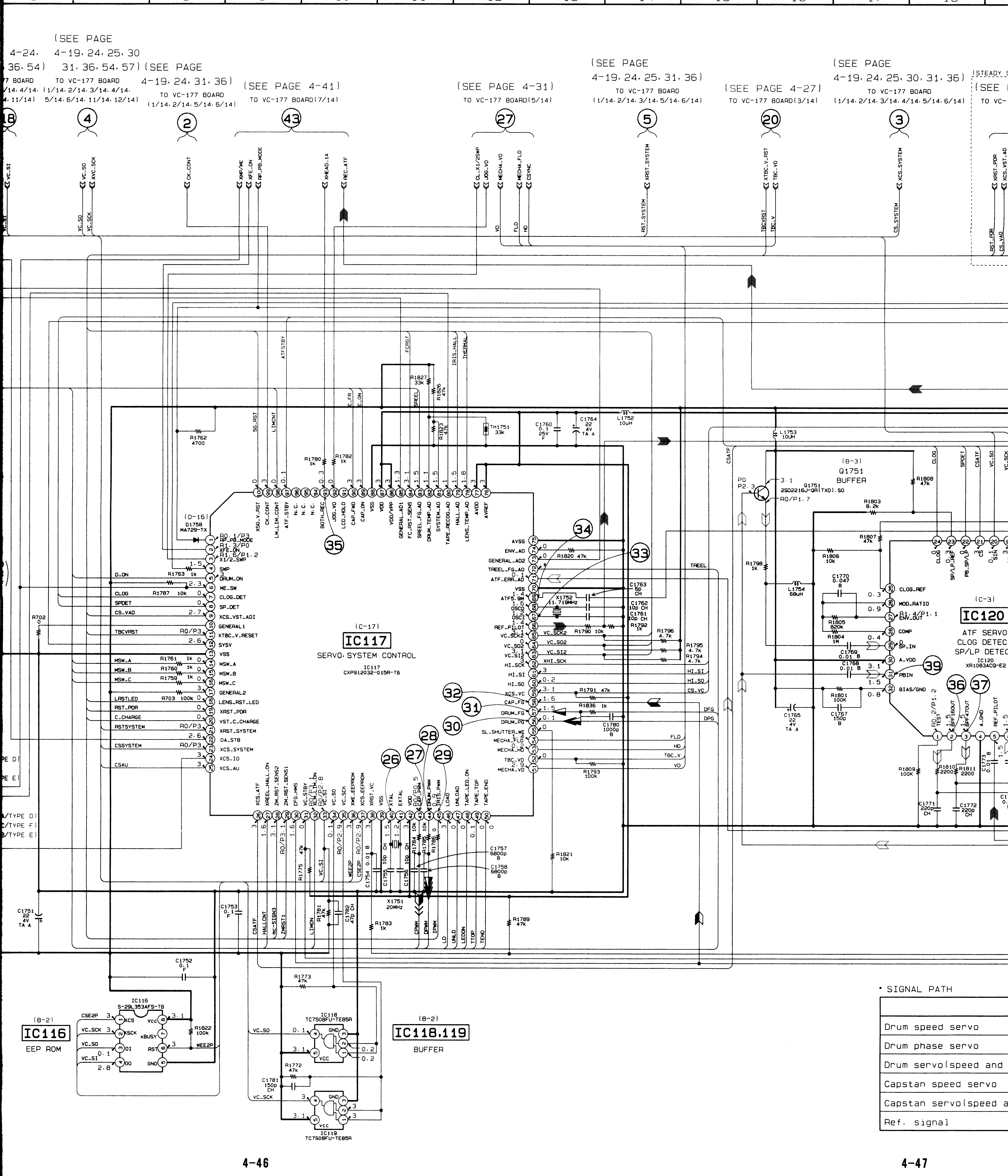
M
N
O
VC-177 BOARD(9/14)
(MC BLOCK)
(SEE PAGE 4-54)
TO VC-177 BOARD(11/14)
(47)
XCS_AU
CSAU
(SEE PAGE 4-36)
TO VC-177 BOARD(6/14)
(34)
DA_STB
(SEE PAGE 4-24, 25, 30, 31, 36, 54)
TO VC-177 BOARD (2/14, 3/14, 4/14, 5/14, 6/14, 11/14)
(18)
VC_SI
(SEE PAGE 4-19, 24, 25, 30 31, 36, 54, 57)
TO VC-177 BOARD (1/14, 2/14, 3/14, 4/14, 5/14, 6/14, 11/14, 12/14)
(4)
VC_SO
XVC_SCK
VC_SCK
(SEE PAGE 4-19, 24, 31, 36)
TO VC-177 BOARD (1/14, 2/14, 5/14, 6/14)
(2)
CK_CONT
(SEE
TO VC
XMP/ME
XFE_ON
RP_PB_MODE
SG_RST
R1762
4700
XSG_V_RST
CK_CONT
*R1818
0 (TYPE A/TYPE B/TYPE C)
22k (TYPE D/TYPE E/TYPE F)
(D-16)
D1758
MA729-TX
R0.1/P3
RP_PB_MODE
R1.3/P0
XFE_ON
R1.6/P1.2
X1/2_SWP
SWP
DRUM_ON
ME_SW
CLOG_DET
SP_DET
XCS_VST_ADI
GENERAL1
XTBC_V_RESET
SYSV
VSS
MSW_A
MSW_B
MSW_C
GENERAL2
LENS_RST_LED
XRST_POR
VST_C_CHARGE
XRST_SYSTEM
DA_STB
XCS_SYSTEM
XCS_IO
XCS_AU
D_ON
R1763 1k
CLOG
R1787 10k
SPDET
CS_VAD
TBCVRST
R0/P3
MSW_A
MSW_B
MSW_C
R1761 1k
R1760 1k
R1759 1k
LRSTLED
R703 100k
RST_POR
C_CHARGE
RSTSYSTEM
CSSYSTEM
CSAU
(TYPE D)
(TYPE E)
(TYPE F)
R1818
*
R1817
100K
R702
0
R705
*
R706
*
CAP_ON
CAP_FWD
DRUM_ON
DRUM_FG
DRUM_PG
XLM_LIM_ON
LM_LIM_CONT
LOAD
UNLOAD
TAPE_END
TAPE_TOP
SREEL_FG
TREEL_FG
CAP_PWM
DRUM_PWM
XREEL_HALL_ON
TAPE_LED_ON
MSW_A
MSW_B
MSW_C
C_ON
C_FR
D_ON
DFG
DPG
LIMON
LIMCNT
LD
UNLD
TEND
TTOP
SREEL
TREEL
CPWM
DPWM
HALLCNT
LEDON
MSW_A
MSW_B
MSW_C
TO
VC-177 BOARD(10/14)
(49)
(SEE PAGE 4-52)
*R706
68k
(TYPE A/TYPE D)
100k
(TYPE B/TYPE E)
XMP/ME
XREC_PROF_SW
HI8_MP_SW
R1752
33K
R1751
56K
R1753
47K
*R705
56k (TYPE A/TYPE D)
100k (TYPE C/TYPE F)
47k (TYPE B/TYPE E)
XCS_ATF
XREEL_HALL_ON
TO
VC-177 BOARD(12/14)
(55)
(SEE PAGE 4-57)
XCS_IO
C1751
22
4V
TA A
C1753
0.1
F
CSATF
HALLCNT
C1752
0.1
F
IC116
S-29L353AFS-TB
CSE2P
VC_SCK
VC_SO
VC_SI
XCS
XSCK
DI
DO
VCC
XBUSY
RST
GND
R1822
100k
WEE2P
(B-2)
IC116
EEP ROM
VC_SO
VC_SO
09

no mark : REC/PB mode
R : REC mode
P : PB mode
* : Can not be measured.

TYPE A/TYPE B/TYPE C:CCD-TR610E(AEP,UK)TR610(E)/TR710E
TYPE D/TYPE E/TYPE F:CCD-TR760E/TR810E/TR910E,CCB67
STEADY SHOT MODEL:CCD-TR610E/TR710E/TR810E/TR910E

to page 4 – 13 for Printed Wiring Board.



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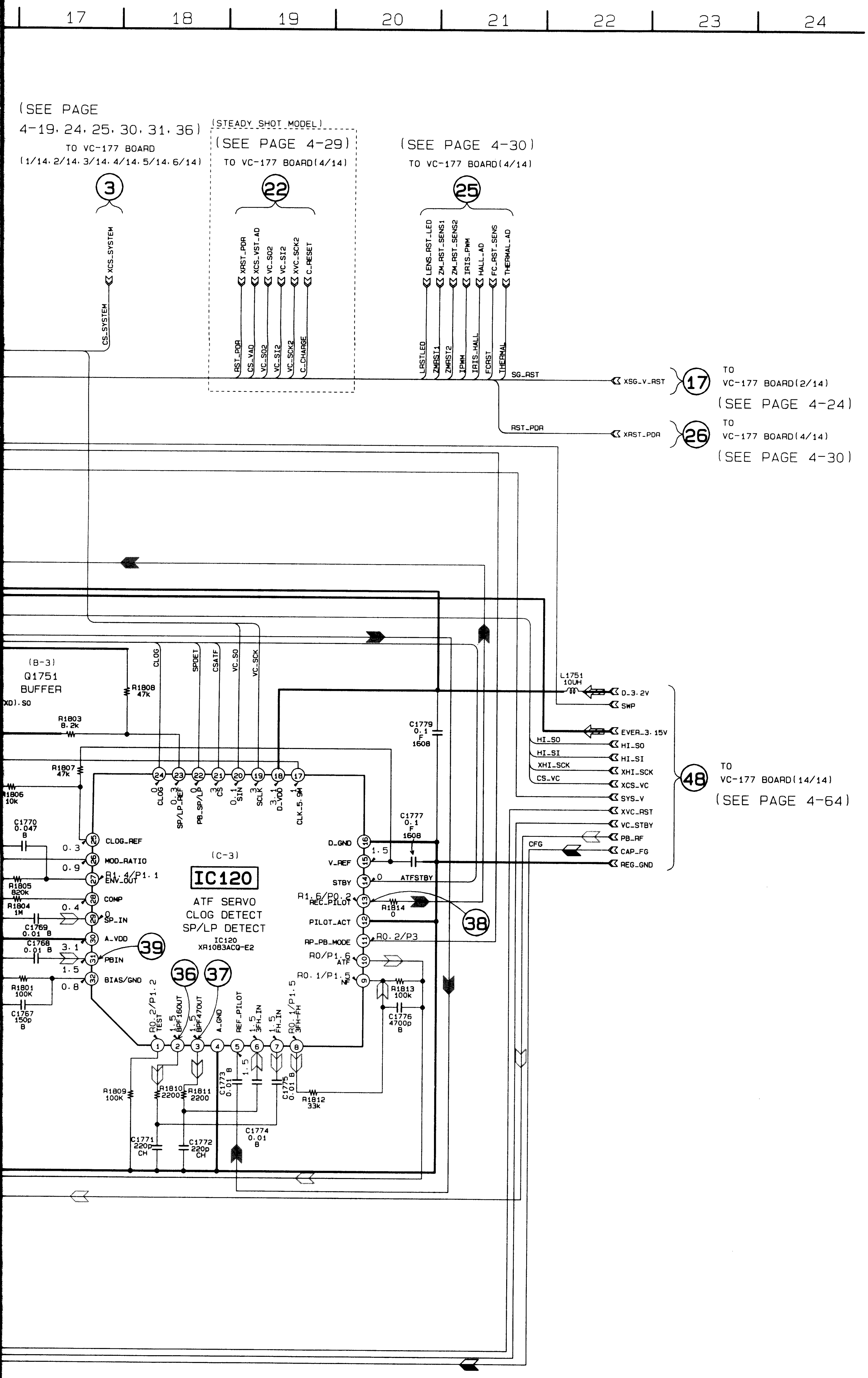
18
(SEE PAGE 4-19, 24, 25, 30 31, 36, 54, 57)
TO VC-177 BOARD (1/14, 2/14, 3/14, 4/14, 5/14, 6/14, 11/14, 12/14)
(SEE PAGE 4-19, 24, 31, 36)
TO VC-177 BOARD (1/14, 2/14, 5/14, 6/14)
(SEE PAGE 4-41)
TO VC-177 BOARD (7/14)
(SEE PAGE 4-31)
TO VC-177 BOARD (5/14)
(SEE PAGE 4-19, 24, 25, 31, 36)
TO VC-177 BOARD (1/14, 2/14, 3/14, 5/14, 6/14)
(SEE PAGE 4-27)
TO VC-177 BOARD (3/14)
(SEE PAGE 4-19, 24, 25, 30, 31, 36)
TO VC-177 BOARD (1/14, 2/14, 3/14, 4/14, 5/14, 6/14)
(C-17)
IC117
SERVO, SYSTEM CONTROL
IC117 CXP912032-015R-T6
(D-16) D1758 MA729-TX
X1752 11.719MHz
X1751 20MHz
(B-3) Q1751 BUFFER
Q1751 2SD2216J-QR(TXO).SO
(C-3)
IC120
ATF SERVO
CLOG DETEC
SP/LP DETEC
IC120 XR1083ACQ-E2
(B-2)
IC116
EEP ROM
IC116 S-29L353AFS-TB
(B-2)
IC118,119
BUFFER
IC118 TC7S08FU-TE85R
IC119 TC7S08FU-TE85R

• SIGNAL PATH

Drum speed servo
Drum phase servo
Drum servo(speed and
Capstan speed servo
Capstan servo(speed a
Ref. signal


17
18
19
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21
22
23
24
(SEE PAGE 4-19, 24, 25, 30, 31, 36)
TO VC-177 BOARD
(1/14, 2/14, 3/14, 4/14, 5/14, 6/14)
3
XCS_SYSTEM
CS_SYSTEM
(STEADY SHOT MODEL)
(SEE PAGE 4-29)
TO VC-177 BOARD(4/14)
22
XRST_PDR
XCS_VST_AD
VC_SO2
VC_SI2
XVC_SCK2
C_RESET
RST_PDR
CS_VAD
VC_SO2
VC_SI2
VC_SCK2
C_CHARGE
(SEE PAGE 4-30)
TO VC-177 BOARD(4/14)
25
LENS_RST_LED
ZM_RST_SENS1
ZM_RST_SENS2
IRIS_PWM
HALL_AD
FC_RST_SENS
THERMAL_AD
LRSTLED
ZMRS1
ZMRS2
IPWM
IRIS_HALL
FCRST
THERMAL
SG_RST
XSG_V_RST
17
TO
VC-177 BOARD(2/14)
(SEE PAGE 4-24)
RST_PDR
XRST_PDR
26
TO
VC-177 BOARD(4/14)
(SEE PAGE 4-30)
(B-3)
Q1751
BUFFER
R1808
47k
R1803
8.2k
R1807
47k
R1806
10k
C1770
0.047
B
R1805
820k
R1804
1M
C1769
0.01 B
C1768
0.01 B
R1801
100K
C1767
150p
B
CLOG
SPDET
CSATF
VC_SO
VC_SCK
L1751
10UH
D_3.2V
SWP
EVER_3.15V
C1779
0.1
F
1608
HI_SO
HI_SI
XHI_SCK
CS_VC
HI_SO
HI_SI
XHI_SCK
XCS_VC
SYS_V
XVC_RST
VC_STBY
PB_RF
CFG
CAP_FG
REG_GND
48
TO
VC-177 BOARD(14/14)
(SEE PAGE 4-64)
C1777
0.1
F
1608
CLOG
SP/LP_REF
PB.SP/LP
CS
SIN
SCLK
D_VDD
CLK_5.5M
CLOG_REF
MOD_RATIO
ENV_OUT
COMP
SP_IN
A_VDD
PBIN
BIAS/GND
0.3
0.9
R1.4/P1.1
0.4
0
3.1
1.5
0.8
(C-3)
IC120
ATF SERVO
CLOG DETECT
SP/LP DETECT
IC120
XR1083ACQ-E2
39
36
37
D_GND
V_REF
STBY
REC_PILOT
PILOT_ACT
RP_PB_MODE
ATF
NF
1.5
0
ATFSTBY
R1.5/P0.2
R1814
0
38
R0.2/P3
R0/P1.6
R0.1/P1.5
R1813
100k
C1776
4700p
B
TEST
BPF160OUT
BPF470OUT
A_GND
REF_PILOT
3FH_IN
FH_IN
3FH-FH
R0.2/P1.2
R1809
100K
R1810
2200
R1811
2200
C1773
0.01 B
C1775
0.01 B
R1812
33k
C1771
220p
CH
C1772
220p
CH
C1774
0.01
B

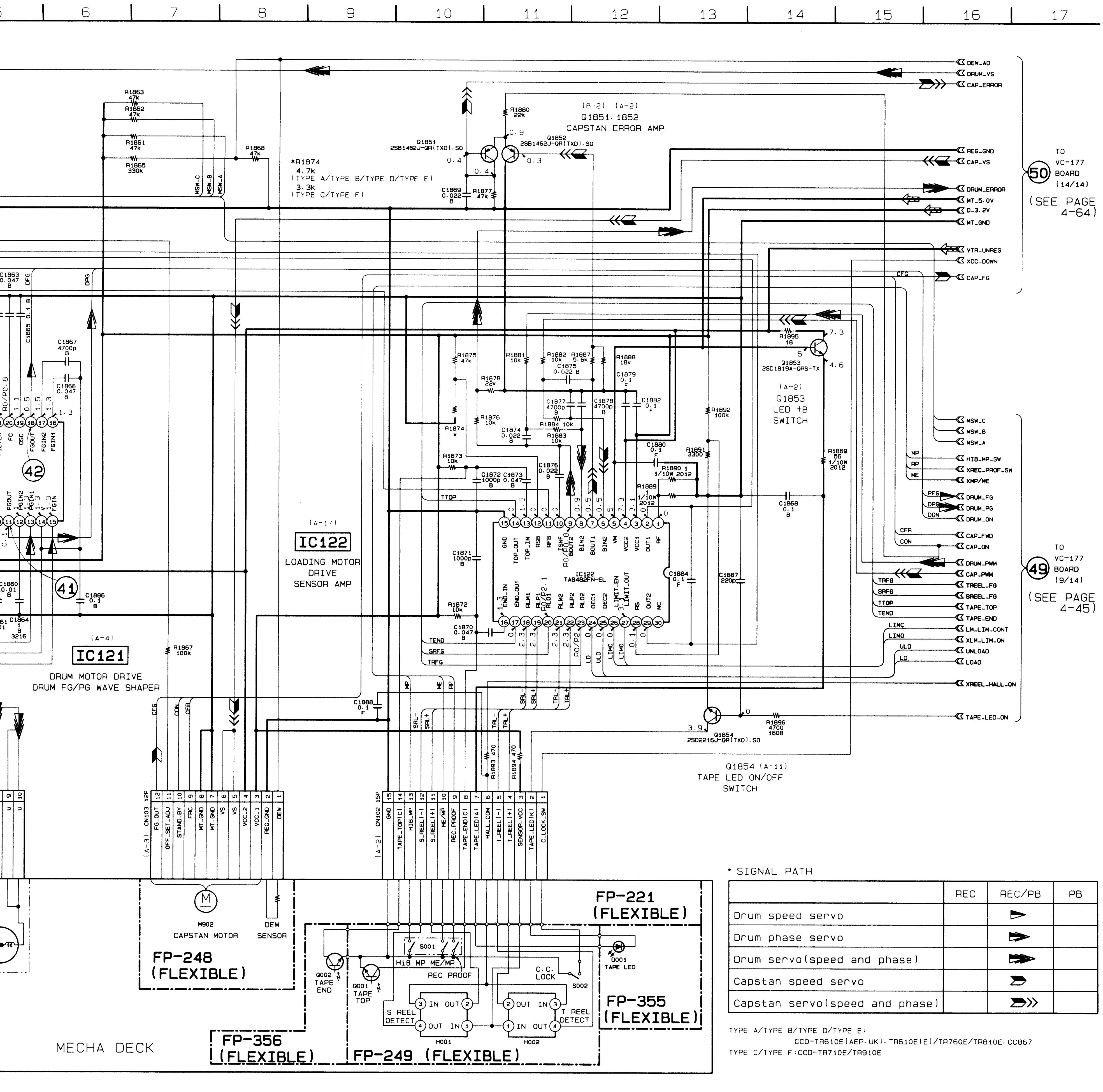
• SIGNAL PATH

	REC	REC/PB	PB
Drum speed servo		▷	
Drum phase servo		➡	
Drum servo(speed and phase)		➡	
Capstan speed servo		➤	
Capstan servo(speed and phase)		➤»	
Ref. signal	➡		▷

E LED), FP-356 (TAPE END SENSOR) SCHEMATIC DIAGRAMS

E BOARDS: 8,000 series —

• Refer to page 4 – 13 for Printed Wiring Board.


6
7
8
9
10
11
12
13
14
15
16
17
DEW_AD
DRUM_VS
CAP_ERROR
REG_GND
CAP_VS
DRUM_ERROR
MT_5.0V
D_3.2V
MT_GND
VTR_UNREG
XCC_DOWN
CAP_FG
TO
VC-177
BOARD
(14/14)
(SEE PAGE 4-64)
MSW_C
MSW_B
MSW_A
HI8_MP_SW
XREC_PROF_SW
XMP/ME
DRUM_FG
DRUM_PG
DRUM_ON
CAP_FWD
CAP_ON
DRUM_PWM
CAP_PWM
TREEL_FG
SREEL_FG
TAPE_TOP
TAPE_END
LM_LIM_CONT
XLM_LIM_ON
UNLOAD
LOAD
XREEL_HALL_ON
TAPE_LED_ON
TO
VC-177
BOARD
(9/14)
(SEE PAGE 4-45)
(B-2) (A-2)
Q1851, 1852
CAPSTAN ERROR AMP
Q1851
2SB1462J-QR(TXD).SO
Q1852
2SB1462J-QR(TXD).SO
*R1874
4.7k
(TYPE A/TYPE B/TYPE D/TYPE E)
3.3k
(TYPE C/TYPE F)
(A-2)
Q1853
LED +B
SWITCH
2SD1819A-QRS-TX
(A-17)
IC122
LOADING MOTOR
DRIVE
SENSOR AMP
IC122
TA8482FN-EL
(A-4)
IC121
DRUM MOTOR DRIVE
DRUM FG/PG WAVE SHAPER
41
42
Q1854 (A-11)
TAPE LED ON/OFF
SWITCH
2SD2216J-QR(TXD).SO
(A-3) CN103 12P
DEW
REG.GND
VCC.1
VCC.2
VS
VS
MT.GND
MT.GND
FRC
STAND.BY
OFF.SET.ADJ
FG.OUT
(A-2) CN102 15P
C.LOCK.SW
TAPE.LED(K)
SENSOR.VCC
T.REEL(+)
T.REEL(-)
HALL.COM
TAPE.LED(A)
TAPE.END(C)
REC.PROOF
ME/MP
S.REEL(+)
S.REEL(-)
HI8.MP
TAPE.TOP(C)
GND
M902
CAPSTAN MOTOR
DEW
SENSOR
FP-248
(FLEXIBLE)
FP-221
(FLEXIBLE)
FP-355
(FLEXIBLE)
FP-356
(FLEXIBLE)
FP-249 (FLEXIBLE)
MECHA DECK
Q002
TAPE
END
Q001
TAPE
TOP
S001
HI8 MP ME/MP
REC PROOF
C.C.
LOCK
S002
D001
TAPE LED
S REEL
DETECT
T REEL
DETECT
H001
H002
IN
OUT

• SIGNAL PATH

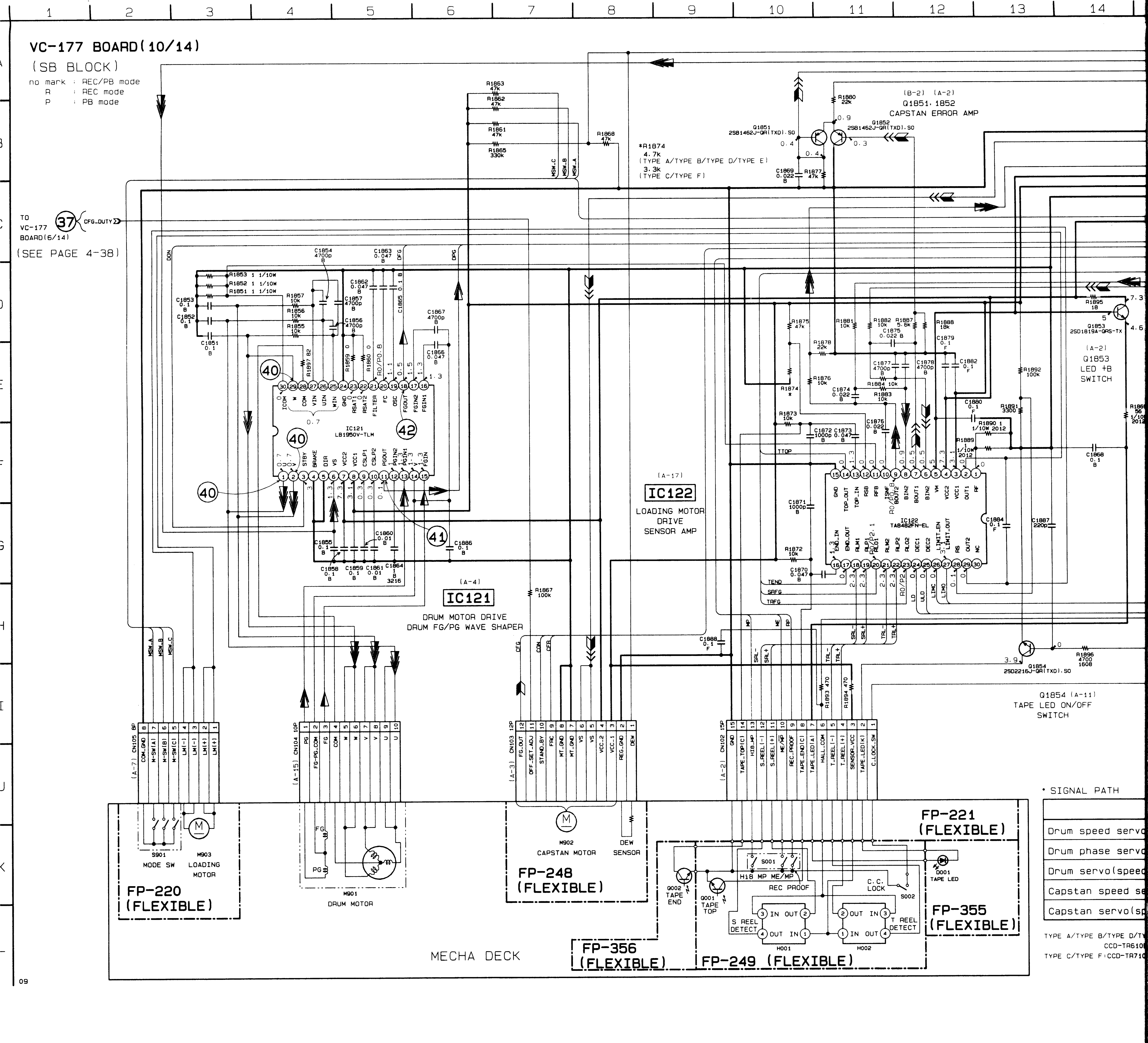
	REC	REC/PB	PB
Drum speed servo		▷	
Drum phase servo		➡	
Drum servo(speed and phase)		➡➡	
Capstan speed servo		➤	
Capstan servo(speed and phase)		➤››	

TYPE A/TYPE B/TYPE D/TYPE E:
CCD-TR610E(AEP, UK), TR610E(E)/TR760E/TR810E, CC867
TYPE C/TYPE F:CCD-TR710E/TR910E

VC-177 (SERVO), FP-249 (TAPE SENSOR), FP-355 (TAPE LED), FP-356 (TAPE END SENSOR) SCHEMATIC DIAGRAMS

— Ref No. VC-177 BOARD: 10,000 series, FP-249, FP-355 and FP-356 FLEXIBLE BOARDS: 8,000 series —

• Refer to page 4 – 13 for Printed Wiring Board.



VC-177 BOARD(10/14)
(SB BLOCK)
no mark : REC/PB mode
R : REC mode
P : PB mode
TO VC-177 BOARD(6/14)
37
CFG_DUTY
(SEE PAGE 4-38)
IC121
LB1950V-TLM
(A-4)
DRUM MOTOR DRIVE
DRUM FG/PG WAVE SHAPER
IC122
TA8482FN-EL
(A-17)
LOADING MOTOR DRIVE SENSOR AMP
Q1851, 1852
CAPSTAN ERROR AMP
(B-2) (A-2)
Q1851 2SB1462J-QR(TX)-SO
Q1852 2SB1462J-QR(TX)-SO
*R1874
4.7k
(TYPE A/TYPE B/TYPE D/TYPE E)
3.3k
(TYPE C/TYPE F)
Q1853
2SD1819A-QRS-TX
(A-2)
Q1853
LED +B
SWITCH
Q1854
2SD2216J-QR(TX)-SO
Q1854 (A-11)
TAPE LED ON/OFF
SWITCH
40
41
42
(A-7) CN105 8P
COM_GND
M-SW(A)
M-SW(B)
M-SW(C)
LM(-)
LM(-)
LM(+)
LM(+)
(A-15) CN104 10P
PG
FG-PG.COM
FG
COM
W
W
V
V
U
U
(A-3) CN103 12P
FG.OUT
OFF.SET.ADJ
STAND.BY
FRC
MT.GND
MT.GND
VS
VS
VCC.2
VCC.1
REG.GND
DEW
(A-2) CN102 15P
GND
TAPE.TOP(C)
H18.MP
S.REEL(-)
S.REEL(+)
ME/MP
REC.PROOF
TAPE.END(C)
TAPE.LED(A)
HALL.COM
T.REEL(-)
T.REEL(+)
SENSOR.VCC
TAPE.LED(K)
C.LOCK.SW
S901
MODE SW
M903
LOADING MOTOR
FP-220 (FLEXIBLE)
M901
DRUM MOTOR
M902
CAPSTAN MOTOR
DEW SENSOR
FP-248 (FLEXIBLE)
FP-221 (FLEXIBLE)
S001
H18 MP ME/MP
REC PROOF
C.C. LOCK
S002
D001
TAPE LED
Q002
TAPE END
Q001
TAPE TOP
S REEL DETECT
T REEL DETECT
H001
H002
FP-355 (FLEXIBLE)
FP-356 (FLEXIBLE)
FP-249 (FLEXIBLE)
MECHA DECK
• SIGNAL PATH
Drum speed serv
Drum phase serv
Drum servo(spee
Capstan speed s
Capstan servo(s
TYPE A/TYPE B/TYPE D/T
CCD-TR61
TYPE C/TYPE F:CCD-TR71

FP-249 (TAPE SENSOR) FLEXIBLE BOARD

— Ref No. FP-249 FLEXIBLE BOARD: 8,000 series —

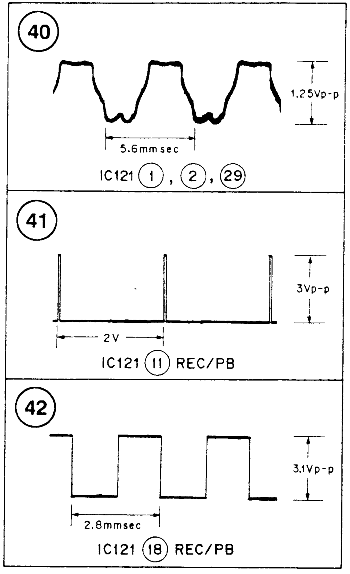
FP-355 (TAPE LED) FLEXIBLE BOARD

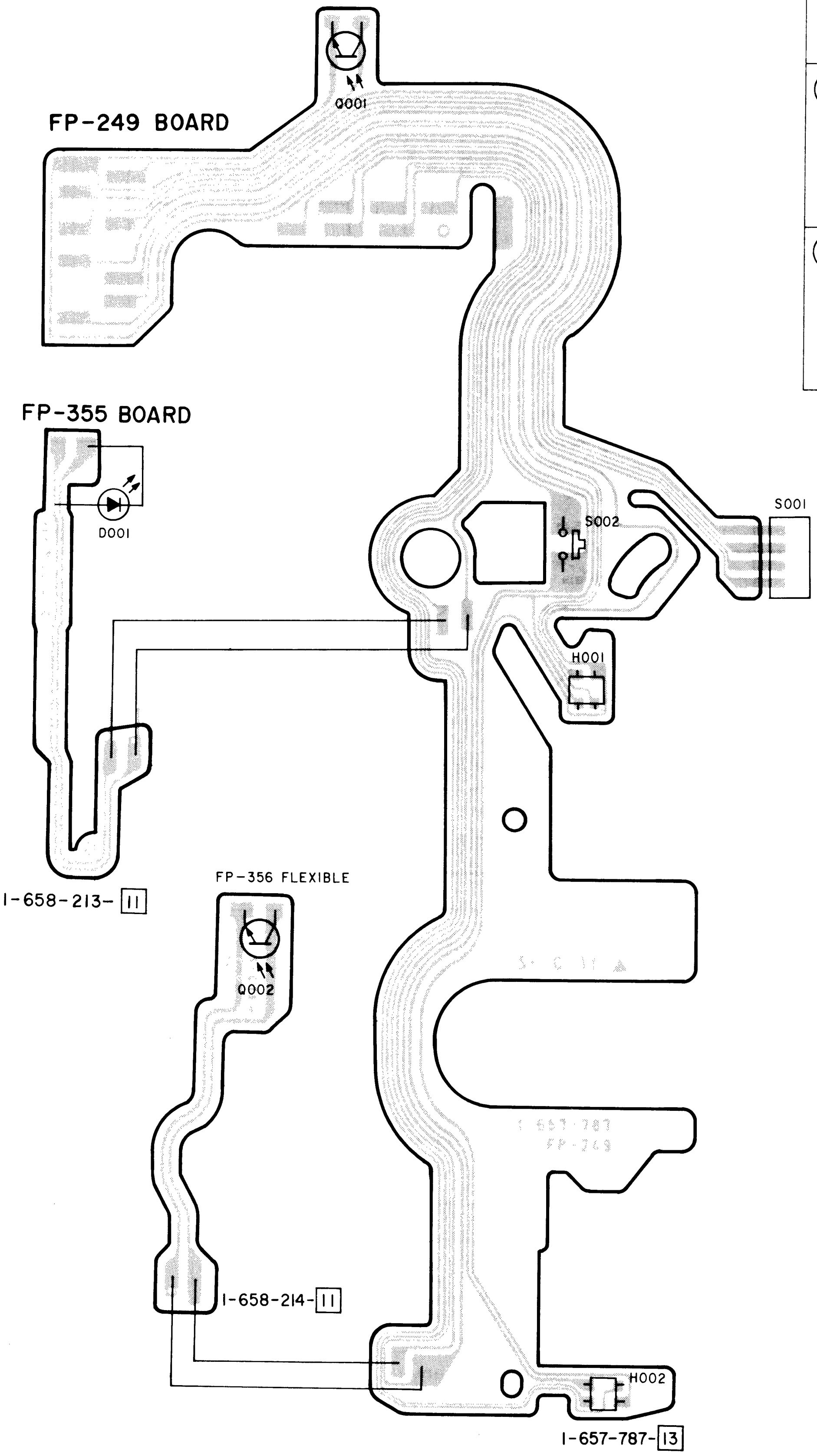
— Ref No. FP-355 FLEXIBLE BOARD: 8,000 series —

FP-356 (TAPE END SENSOR) FLEXIBLE BOARD

— Ref No. FP-356 FLEXIBLE BOARD: 8,000 series —

VC-177 BOARD (SB BLOCK)



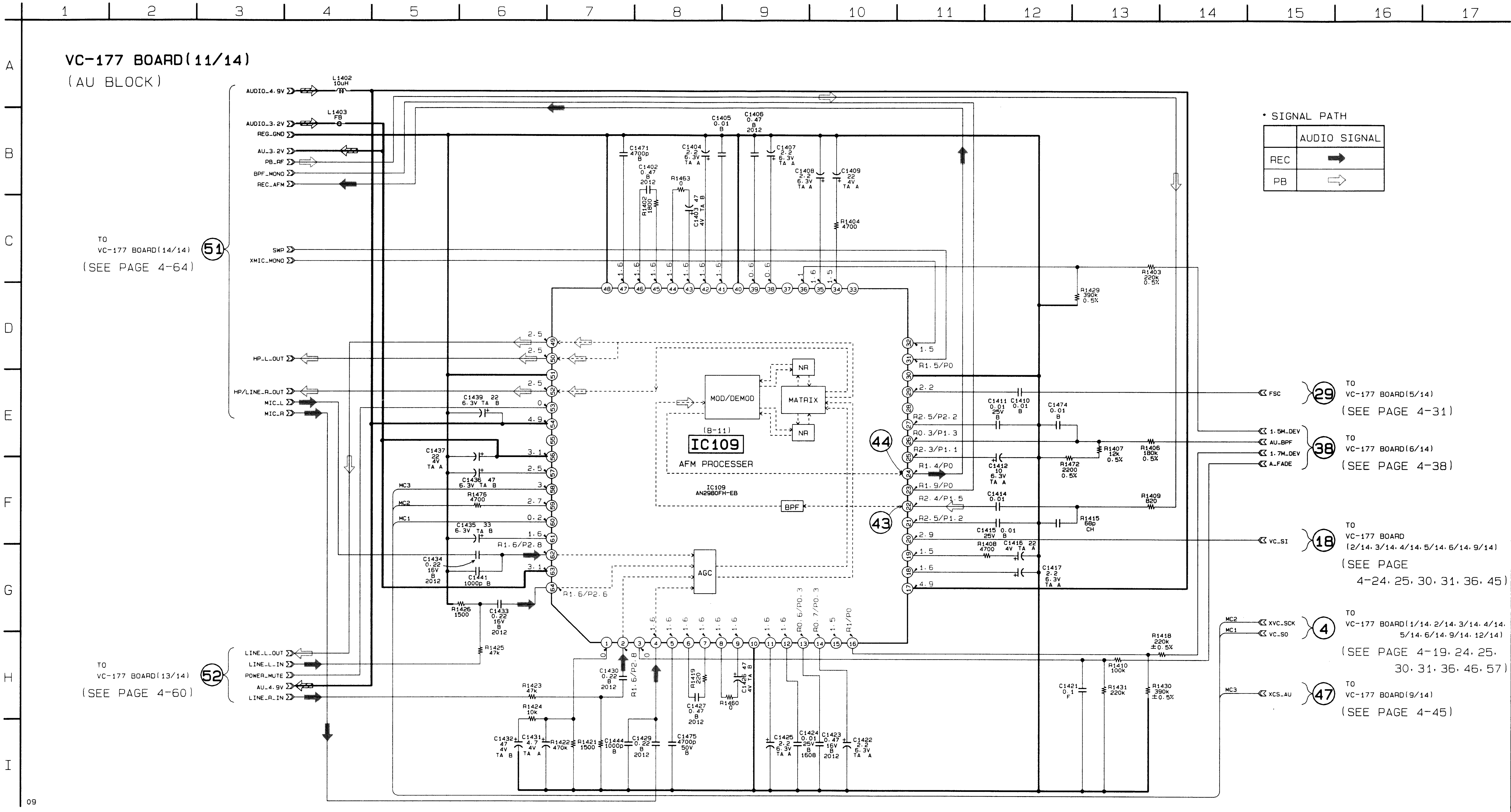


FP-249 BOARD
Q001
FP-355 BOARD
D001
S002
S001
H001
1-658-213-11
FP-356 FLEXIBLE
Q002
1-658-214-11
H002
1-657-787-13

VC-177 (AUDIO) SCHEMATIC DIAGRAM

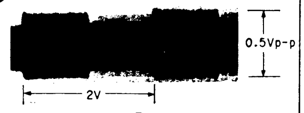
— Ref No. VC-177 BOARD: 10,000 series —

• Refer to page 4 – 13 for Printed Wiring Board.


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
A
B
C
D
E
F
G
H
I
VC-177 BOARD(11/14)
(AU BLOCK)
• SIGNAL PATH
AUDIO SIGNAL
REC
PB
TO
VC-177 BOARD(14/14)
(SEE PAGE 4-64)
51
AUDIO_4.9V
AUDIO_3.2V
REG_GND
AU_3.2V
PB_RF
BPF_MONO
REC_AFM
SWP
XMIC_MONO
HP_L_OUT
HP/LINE_R_OUT
MIC_L
MIC_R
L1402
10uH
L1403
FB
C1405
0.01
B
C1406
0.47
B
2012
C1471
4700p
B
C1404
2.2
6.3V
TA A
C1407
2.2
6.3V
TA A
C1402
0.47
B
2012
R1463
0
R1402
1800
C1403 47
4V TA B
C1408
2.2
6.3V
TA A
C1409
22
4V
TA A
R1404
4700
R1403
220k
0.5%
R1429
390k
0.5%
IC109
AFM PROCESSER
IC109
AN2980FH-EB
(B-11)
MOD/DEMOD
MATRIX
NR
NR
BPF
AGC
44
43
1.5
R1.5/P0
2.2
R2.5/P2.2
R0.3/P1.3
R2.3/P1.1
R1.4/P0
R1.9/P0
R2.4/P1.5
R2.5/P1.2
2.9
1.5
1.6
4.9
2.5
2.5
2.5
0
4.9
3.1
2.5
3
2.7
0.2
1.6
R1.6/P2.8
3.1
R1.6/P2.6
C1439 22
6.3V TA B
C1437
22
4V
TA A
C1436 47
6.3V TA B
R1475
4700
C1435 33
6.3V TA B
C1434
0.22
16V
B
2012
C1441
1000p B
R1426
1500
C1433
0.22
16V
B
2012
R1425
47k
MC3
MC2
MC1
C1411
0.01
25V
B
C1410
0.01
B
C1474
0.01
B
C1412
10
6.3V
TA A
R1472
2200
0.5%
R1407
12k
0.5%
R1406
180k
0.5%
C1414
0.01
R1409
820
C1415
0.01
25V B
R1415
680
CH
R1408
4700
C1416 22
4V TA A
C1417
2.2
6.3V
TA A
FSC
1.5M_DEV
AU_BPF
1.7M_DEV
A_FADE
VC_SI
XVC_SCK
VC_SO
XCS_AU
29
TO
VC-177 BOARD(5/14)
(SEE PAGE 4-31)
38
TO
VC-177 BOARD(6/14)
(SEE PAGE 4-38)
18
TO
VC-177 BOARD
(2/14, 3/14, 4/14, 5/14, 6/14, 9/14)
(SEE PAGE
4-24, 25, 30, 31, 36, 45)
4
TO
VC-177 BOARD(1/14, 2/14, 3/14, 4/14, 5/14, 6/14, 9/14, 12/14)
(SEE PAGE 4-19, 24, 25, 30, 31, 36, 46, 57)
47
TO
VC-177 BOARD(9/14)
(SEE PAGE 4-45)
R1418
220k
±0.5%
R1410
100k
R1431
220k
R1430
390k
±0.5%
C1421
0.1
F
R0.6/P0.3
R0.7/P0.3
R1/P0
R1.6/P2.8
C1430
0.22
B
2012
R1419
220
C1426 47
4V TA B
C1427
0.47
B
2012
R1460
0
R1423
47k
R1424
10k
C1432
47
4V
TA B
C1431
4.7
4V
TA A
R1422
470k
R1421
1500
C1444
1000p
B
C1429
0.22
B
2012
C1475
4700p
50V
B
C1425
2.2
6.3V
TA A
C1424
0.01
25V
B
1608
C1423
0.47
16V
B
2012
C1422
2.2
6.3V
TA A
TO
VC-177 BOARD(13/14)
(SEE PAGE 4-60)
52
LINE_L_OUT
LINE_L_IN
POWER_MUTE
AU_4.9V
LINE_R_IN
09

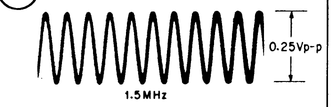
VC-177 BOARD (AU BLOCK)

㊸



IC109 ㉒ PB

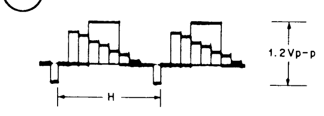
㊹



IC109 ㉔ REC

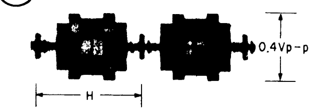
VC-177 BOARD (IO BLOCK)

(17)



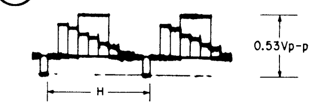
IC129 (15) REC/PB

(18)



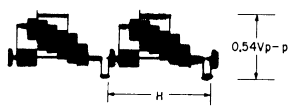
IC129 (19) REC/PB

(19)



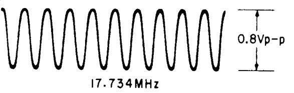
IC129 (21) REC/PB

(20)



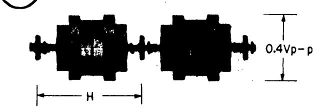
IC129 (27) REC/PB

(21)



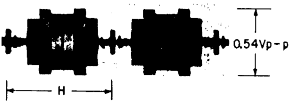
IC129 (35) REC/PB

(22)



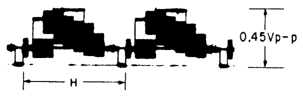
IC129 (44) REC

(23)



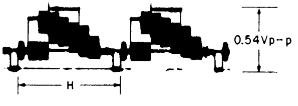
IC129 (46) REC

(24)



IC129 (58) REC

(25)

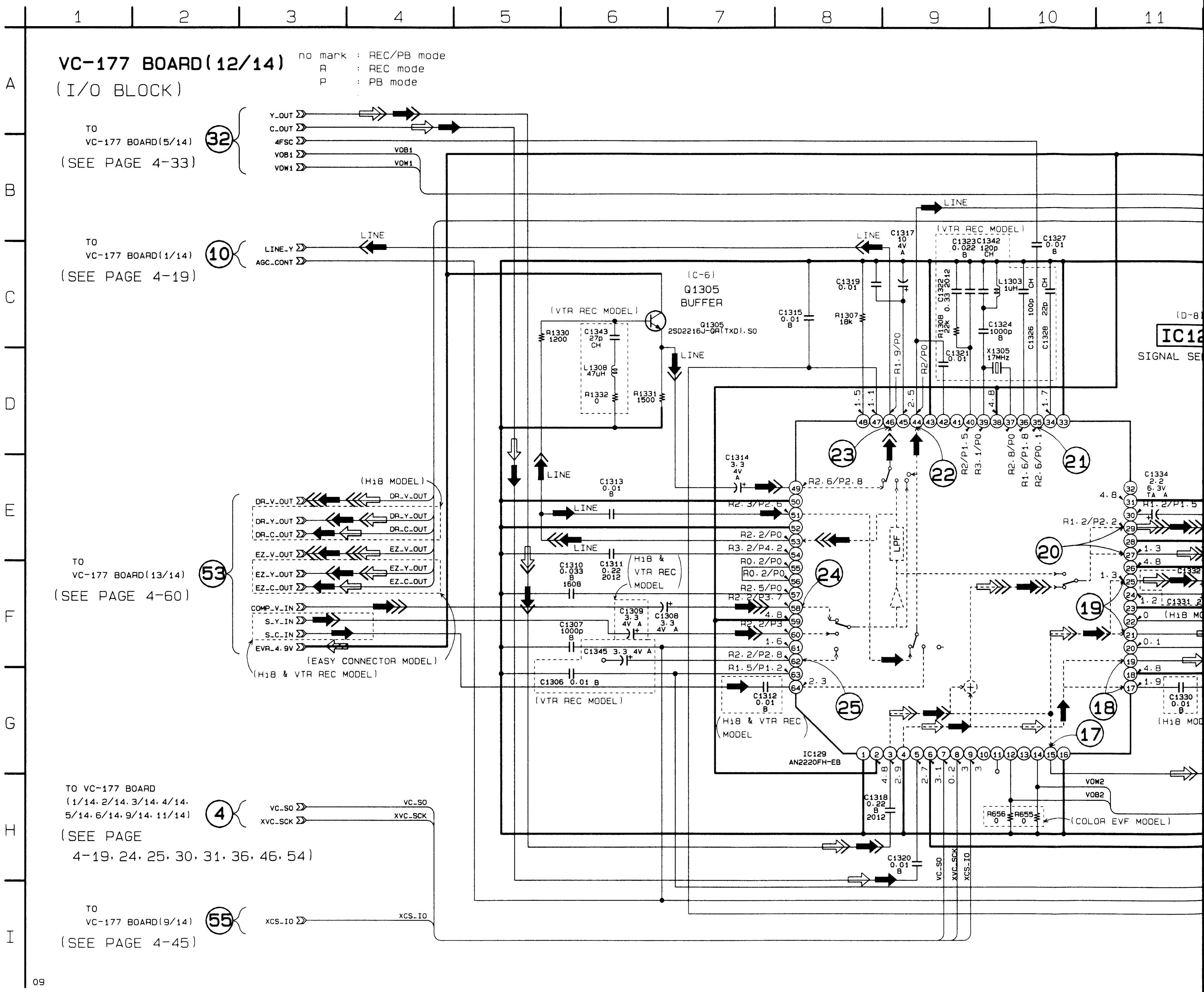


IC129 (62) REC

VC-177 (VIDEO IN/OUT (1)) SCHEMATIC DIAGRAM

— Ref No. VC-177 BOARD: 10,000 series —

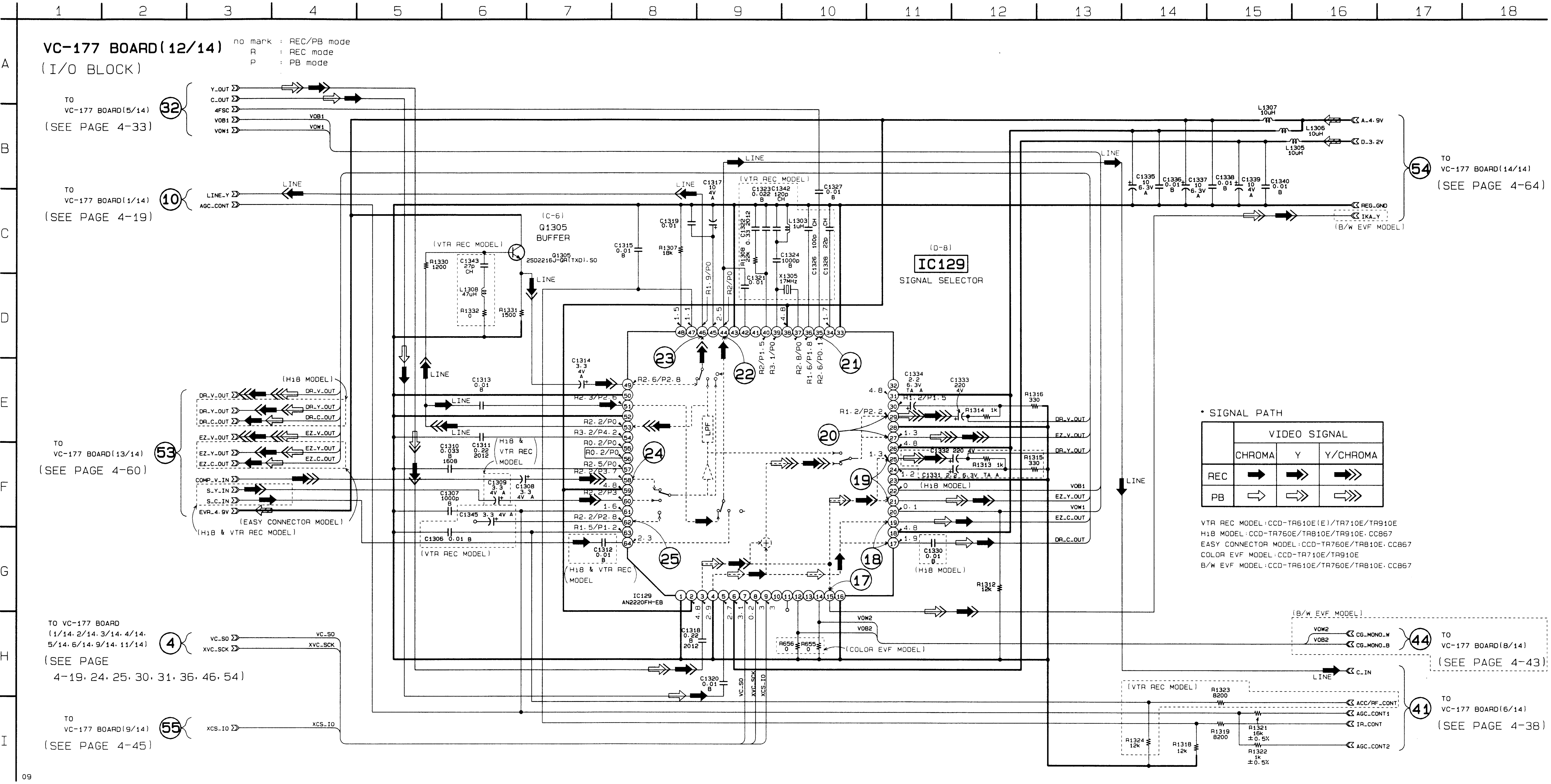
• Refer to page 4 – 13 for Printed Wiring Board.


VC-177 BOARD (12/14)
(I/O BLOCK)
no mark : REC/PB mode
R : REC mode
P : PB mode
TO VC-177 BOARD (5/14)
(SEE PAGE 4-33)
32
Y_OUT
C_OUT
4FSC
VOB1
VOW1
TO VC-177 BOARD (1/14)
(SEE PAGE 4-19)
10
LINE_Y
AGC_CONT
LINE
TO VC-177 BOARD (13/14)
(SEE PAGE 4-60)
53
DR_V_OUT
DR_Y_OUT
DR_C_OUT
EZ_V_OUT
EZ_Y_OUT
EZ_C_OUT
COMP_V_IN
S_Y_IN
S_C_IN
EVR_4.9V
(H18 MODEL)
(EASY CONNECTOR MODEL)
(H18 & VTR REC MODEL)
TO VC-177 BOARD (1/14, 2/14, 3/14, 4/14, 5/14, 6/14, 9/14, 11/14)
(SEE PAGE 4-19, 24, 25, 30, 31, 36, 46, 54)
4
VC_SO
XVC_SCK
TO VC-177 BOARD (9/14)
(SEE PAGE 4-45)
55
XCS_IO
(C-6)
Q1305
BUFFER
2SD2216J-QR(TXD)-SO
(VTR REC MODEL)
R1330 1200
C1343 27p CH
L1308 47uH
R1332 0
R1331 1500
C1313 0.01 B
C1310 0.033 B 1608
C1311 0.22 2012
(H18 & VTR REC MODEL)
C1309 3.3 4V A
C1308 3.3 4V A
C1307 1000p B
C1345 3.3 4V A
C1306 0.01 B
C1314 3.3 4V A
C1312 0.01 B
(H18 & VTR REC MODEL)
C1315 0.01 B
R1307 18k
C1319 0.01
C1317 10 4V A
C1323 0.022 B
C1342 120p CH
C1327 0.01 B
R1308 22k
C1322 0.33 2012
C1321 0.01
C1324 1000p B
L1303 1uH
X1305 17MHz
C1326 100p CH
C1328 22p CH
C1334 2.2 6.3V TA A
C1331
C1330 0.01 B
(H18 MODEL)
C1318 0.22 B 2012
C1320 0.01 B
R656 0
R655 0
(COLOR EVF MODEL)
VOW2
VOB2
IC129
AN2220FH-EB
IC12
SIGNAL SE
(D-8)
LPF
R2.6/P2.8
R2.3/P2.5
R2.2/P0
R3.2/P4.2
R0.2/P0
R2.5/P0
R2.2/P3.7
R2.2/P2.8
R1.5/P1.2
R1.2/P2.2
R1.2/P1.5
R1.9/P0
R2/P0
R2/P1.5
R3.1/P0
R2.8/P0
R1.6/P1.8
R2.6/P0.1
17
18
19
20
21
22
23
24
25
09

VC-177 (VIDEO IN/OUT (1)) SCHEMATIC DIAGRAM

— Ref No. VC-177 BOARD: 10,000 series —

• Refer to page 4 – 13 for Printed Wiring Board.



VC-177 BOARD(12/14)
(I/O BLOCK)
no mark : REC/PB mode
R : REC mode
P : PB mode
TO VC-177 BOARD(5/14) (SEE PAGE 4-33)
Y_OUT
C_OUT
4FSC
VOB1
VOW1
TO VC-177 BOARD(1/14) (SEE PAGE 4-19)
LINE_Y
AGC_CONT
TO VC-177 BOARD(13/14) (SEE PAGE 4-60)
DR_V_OUT
DR_Y_OUT
DR_C_OUT
EZ_V_OUT
EZ_Y_OUT
EZ_C_OUT
COMP_V_IN
S_Y_IN
S_C_IN
EVR_4.9V
(H18 MODEL)
(EASY CONNECTOR MODEL)
(H18 & VTR REC MODEL)
TO VC-177 BOARD (1/14, 2/14, 3/14, 4/14, 5/14, 6/14, 9/14, 11/14) (SEE PAGE 4-19, 24, 25, 30, 31, 36, 46, 54)
VC_SO
XVC_SCK
TO VC-177 BOARD(9/14) (SEE PAGE 4-45)
XCS_IO
(C-6) Q1305 BUFFER
Q1305 2SD2216J-QR(TXD).SO
(D-8) IC129 SIGNAL SELECTOR
IC129 AN2220FH-EB
(VTR REC MODEL)
(COLOR EVF MODEL)
(B/W EVF MODEL)
TO VC-177 BOARD(14/14) (SEE PAGE 4-64)
A_4.9V
D_3.2V
REG_GND
IKA_Y
TO VC-177 BOARD(8/14) (SEE PAGE 4-43)
CG_MONO_W
CG_MONO_B
VOW2
VOB2
TO VC-177 BOARD(6/14) (SEE PAGE 4-38)
C_IN
ACC/RF_CONT
AGC_CONT1
IR_CONT
AGC_CONT2
LINE
LPF
L1307 10uH
L1306 10uH
L1305 10uH

• SIGNAL PATH

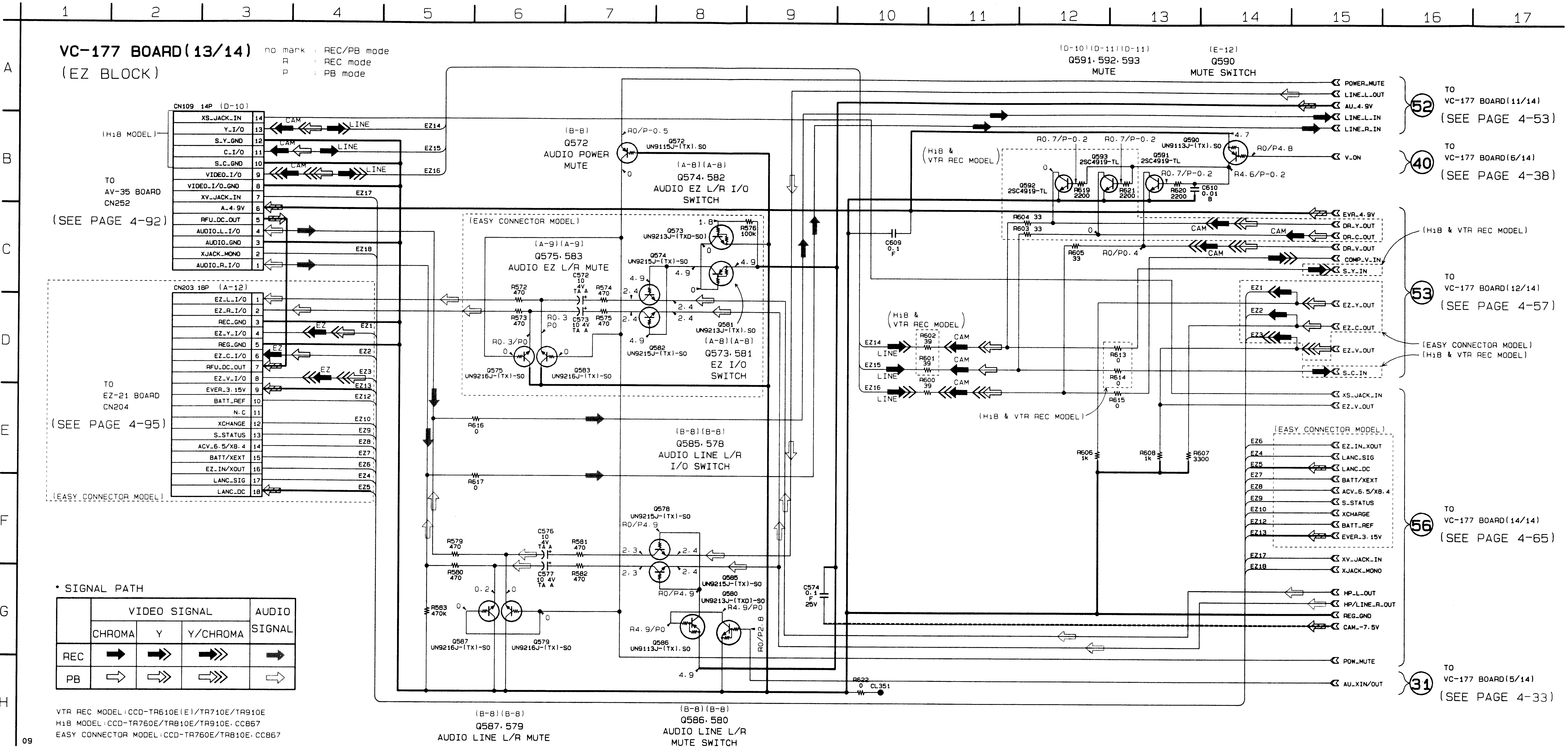
	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡	➡»	➡»»
PB	⇨	⇨»	⇨»»

VTR REC MODEL:CCD-TR610E(E)/TR710E/TR910E
Hi8 MODEL:CCD-TR760E/TR810E/TR910E, CC867
EASY CONNECTOR MODEL:CCD-TR760E/TR810E, CC867
COLOR EVF MODEL:CCD-TR710E/TR910E
B/W EVF MODEL:CCD-TR610E/TR760E/TR810E, CC867

VC-177 (VIDEO IN/OUT (2)) SCHEMATIC DIAGRAM

— Ref No. VC-177 BOARD: 10,000 series —

- Refer to page 4 – 13 for Printed Wiring Board.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C
D
E
F
G
H
VC-177 BOARD(13/14)
(EZ BLOCK)
no mark : REC/PB mode
R : REC mode
P : PB mode
CN109 14P (D-10)
XS_JACK_IN
Y_I/O
S_Y_GND
C_I/O
S_C_GND
VIDEO_I/O
VIDEO_I/O_GND
XV_JACK_IN
A_4.9V
RFU_DC_OUT
AUDIO_L_I/O
AUDIO_GND
XJACK_MONO
AUDIO_R_I/O
(Hi8 MODEL)
TO
AV-35 BOARD
CN252
(SEE PAGE 4-92)
CAM
LINE
EZ14
EZ15
EZ16
EZ17
EZ18
CN203 18P (A-12)
EZ_L_I/O
EZ_R_I/O
REC_GND
EZ_Y_I/O
REG_GND
EZ_C_I/O
RFU_DC_OUT
EZ_V_I/O
EVER_3.15V
BATT_REF
N.C
XCHANGE
S_STATUS
ACV_6.5/X8.4
BATT/XEXT
EZ_IN/XOUT
LANC_SIG
LANC_DC
TO
EZ-21 BOARD
CN204
(SEE PAGE 4-95)
(EASY CONNECTOR MODEL)
EZ
(B-8)
Q572
AUDIO POWER
MUTE
R0/P-0.5
Q572
UN9115J-(TX).SO
(A-8)(A-8)
Q574,582
AUDIO EZ L/R I/O
SWITCH
(EASY CONNECTOR MODEL)
(A-9)(A-9)
Q575,583
AUDIO EZ L/R MUTE
R572 470
R573 470
C572 10 4V TA A
C573 10 4V TA A
R574 470
R575 470
R0.3/P0
Q575 UN9216J-(TX)-SO
Q583 UN9216J-(TX)-SO
Q573 UN9213J-(TXD-SO)
R576 100k
Q574 UN9215J-(TX)-SO
Q581 UN9213J-(TX).SO
Q582 UN9215J-(TX)-SO
(A-8)(A-8)
Q573,581
EZ I/O
SWITCH
R616 0
R617 0
(B-8)(B-8)
Q585,578
AUDIO LINE L/R
I/O SWITCH
Q578 UN9215J-(TX)-SO
R0/P4.9
R579 470
R580 470
C576 10 4V TA A
C577 10 4V TA A
R581 470
R582 470
R583 470k
Q587 UN9216J-(TX)-SO
Q579 UN9216J-(TX)-SO
Q585 UN9215J-(TX)-SO
Q580 UN9213J-(TXD)-SO
R4.9/P0
Q586 UN9113J-(TX).SO
R0/P2.8
C574 0.1 F 25V
C609 0.1 F
R622 0
CL351
(B-8)(B-8)
Q587,579
AUDIO LINE L/R MUTE
(B-8)(B-8)
Q586,580
AUDIO LINE L/R
MUTE SWITCH
(D-10)(D-11)(D-11)
Q591,592,593
MUTE
(E-12)
Q590
MUTE SWITCH
Q590 UN9113J-(TX).SO
Q591 2SC4919-TL
Q592 2SC4919-TL
Q593 2SC4919-TL
R0.7/P-0.2
R0/P4.8
R4.6/P-0.2
R619 2200
R620 2200
R621 2200
C610 0.01 B
R604 33
R603 33
R605 33
R0/P0.4
(Hi8 & VTR REC MODEL)
R602 39
R601 39
R600 39
R613 0
R614 0
R615 0
R606 1k
R608 1k
R607 3300
POWER_MUTE
LINE_L_OUT
AU_4.9V
LINE_L_IN
LINE_R_IN
V_ON
TO
VC-177 BOARD(11/14)
(SEE PAGE 4-53)
TO
VC-177 BOARD(6/14)
(SEE PAGE 4-38)
EVR_4.9V
DR_Y_OUT
DR_C_OUT
DR_V_OUT
COMP_V_IN
S_Y_IN
EZ_Y_OUT
EZ_C_OUT
EZ_V_OUT
S_C_IN
(Hi8 & VTR REC MODEL)
TO
VC-177 BOARD(12/14)
(SEE PAGE 4-57)
(EASY CONNECTOR MODEL)
(Hi8 & VTR REC MODEL)
XS_JACK_IN
EZ_V_OUT
(EASY CONNECTOR MODEL)
EZ_IN_XOUT
LANC_SIG
LANC_DC
BATT/XEXT
ACV_6.5/X8.4
S_STATUS
XCHARGE
BATT_REF
EVER_3.15V
XV_JACK_IN
XJACK_MONO
HP_L_OUT
HP/LINE_R_OUT
REG_GND
CAM_-7.5V
TO
VC-177 BOARD(14/14)
(SEE PAGE 4-65)
POW_MUTE
AU_XIN/OUT
TO
VC-177 BOARD(5/14)
(SEE PAGE 4-33)
52
40
53
56
31

- SIGNAL PATH

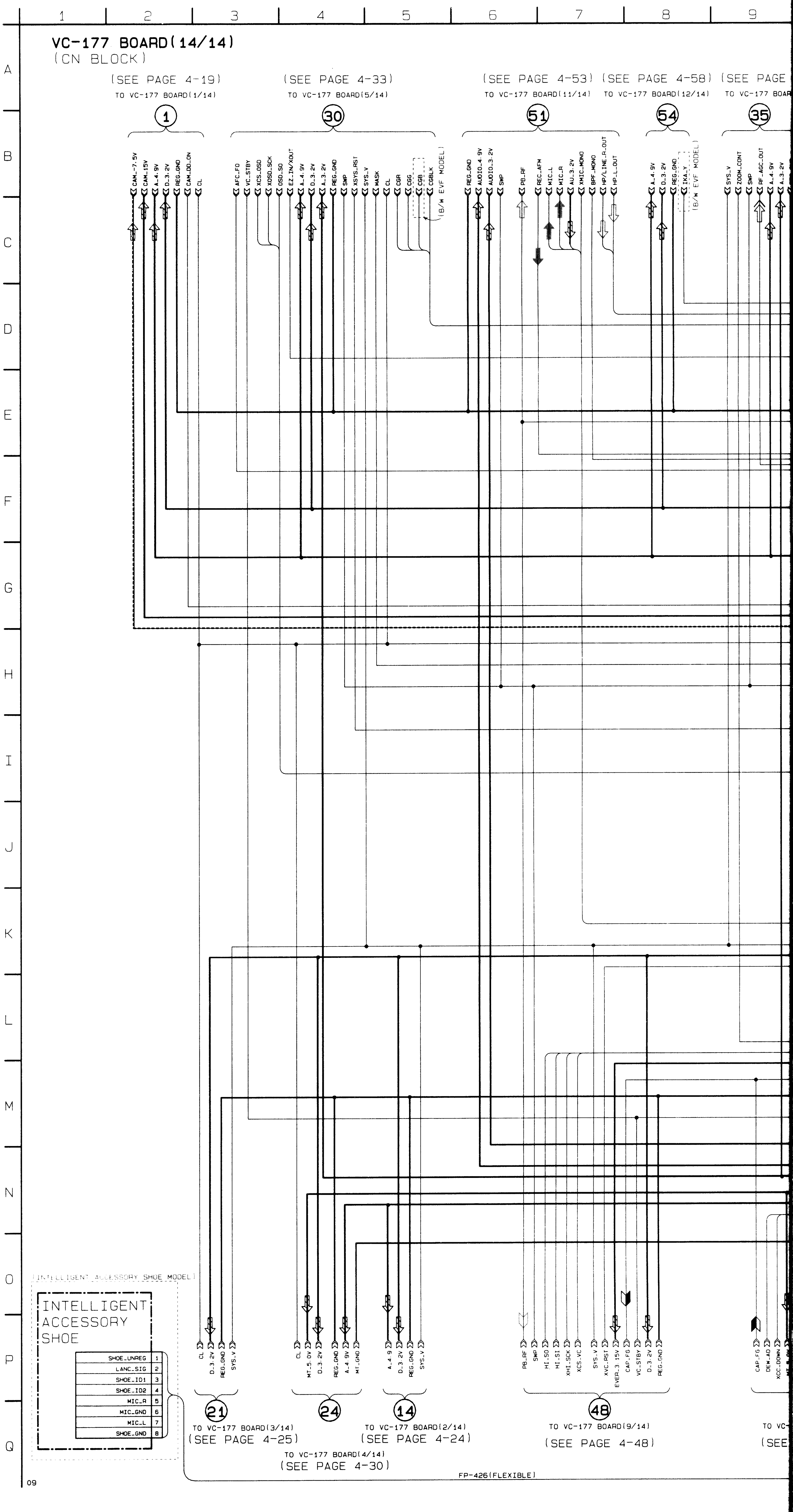
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡	➡	➡
PB	⇨	⇨	⇨	⇨

VTR REC MODEL:CCD-TR610E(E)/TR710E/TR910E
Hi8 MODEL:CCD-TR760E/TR810E/TR910E, CC867
EASY CONNECTOR MODEL:CCD-TR760E/TR810E, CC867

VC-177 (CONNECTOR), FP-379 (HEADPHONES) SCHEMATIC DIAGRAMS

— Ref No. VC-177 BOARD: 10,000 series —

• Refer to page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C
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E
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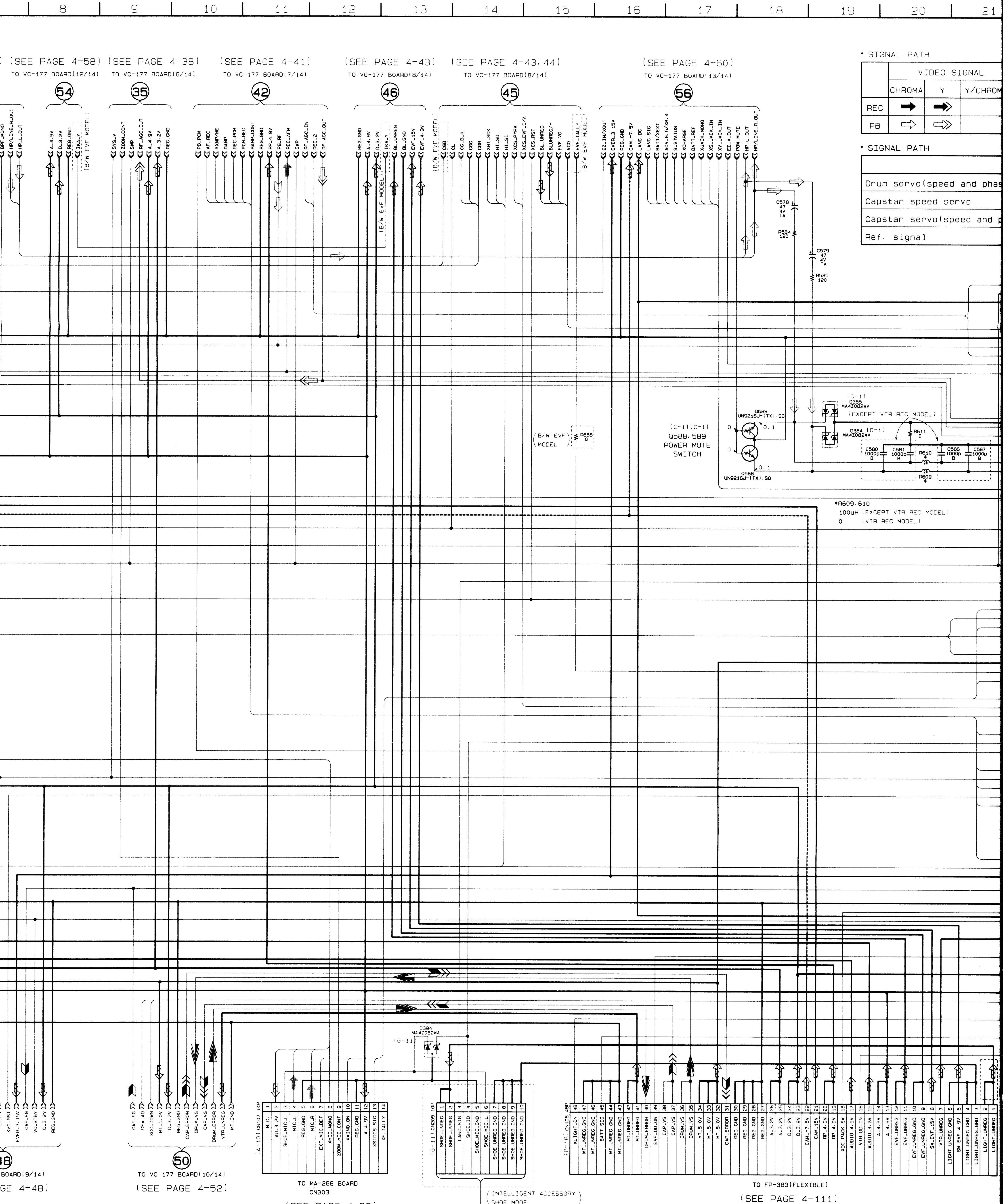
G
H
I
J
K
L
M
N
O
P
Q
VC-177 BOARD(14/14)
(CN BLOCK)
(SEE PAGE 4-19)
TO VC-177 BOARD(1/14)
①
CAM_-7.5V
CAM_15V
A_4.9V
D_3.2V
REG_GND
CAM_DD_ON
CL
(SEE PAGE 4-33)
TO VC-177 BOARD(5/14)
㉚
AFC_FO
VC_STBY
XCS_OSD
XOSD_SCK
OSD_SO
EZ_IN/XOUT
A_4.9V
D_3.2V
A_3.2V
REG_GND
SWP
XSYS_RST
SYS_V
MASK
CL
CGR
CGG
CGB
CGBLK
(B/W EVF MODEL)
(SEE PAGE 4-53)
TO VC-177 BOARD(11/14)
(51)
REG_GND
AUDIO_4.9V
AUDIO_3.2V
SWP
PB_RF
REC_AFM
MIC_L
MIC_R
AU_3.2V
XMIC_MONO
BPF_MONO
HP/LINE_R_OUT
HP_L_OUT
(SEE PAGE 4-58)
TO VC-177 BOARD(12/14)
(54)
A_4.9V
D_3.2V
REG_GND
IKA_Y
(B/W EVF MODEL)
(SEE PAGE
TO VC-177 BOAR
㉟
SYS_V
ZOOM_CONT
SWP
RF_AGC_OUT
A_4.9V
A_3.2V
(INTELLIGENT ACCESSORY SHOE MODEL)
INTELLIGENT ACCESSORY SHOE
SHOE_UNREG 1
LANC_SIG 2
SHOE_ID1 3
SHOE_ID2 4
MIC_R 5
MIC_GND 6
MIC_L 7
SHOE_GND 8
CL
D_3.2V
REG_GND
SYS_V
㉑
TO VC-177 BOARD(3/14)
(SEE PAGE 4-25)
CL
MT_5.0V
D_3.2V
REG_GND
A_4.9V
MT_GND
㉔
TO VC-177 BOARD(4/14)
(SEE PAGE 4-30)
A_4.9
D_3.2V
REG_GND
SYS_V
⑭
TO VC-177 BOARD(2/14)
(SEE PAGE 4-24)
PB_RF
SWP
HI_SO
HI_SI
XHI_SCK
XCS_VC
SYS_V
XVC_RST
EVER_3.15V
CAP_FG
VC_STBY
D_3.2V
REG_GND
㊽
TO VC-177 BOARD(9/14)
(SEE PAGE 4-48)
CAP_FG
DEW_AD
XCC_DOWN
TO VC-
(SEE
FP-426(FLEXIBLE)
09

• Refer to page 4 – 13 for Printed Wiring Board.


8
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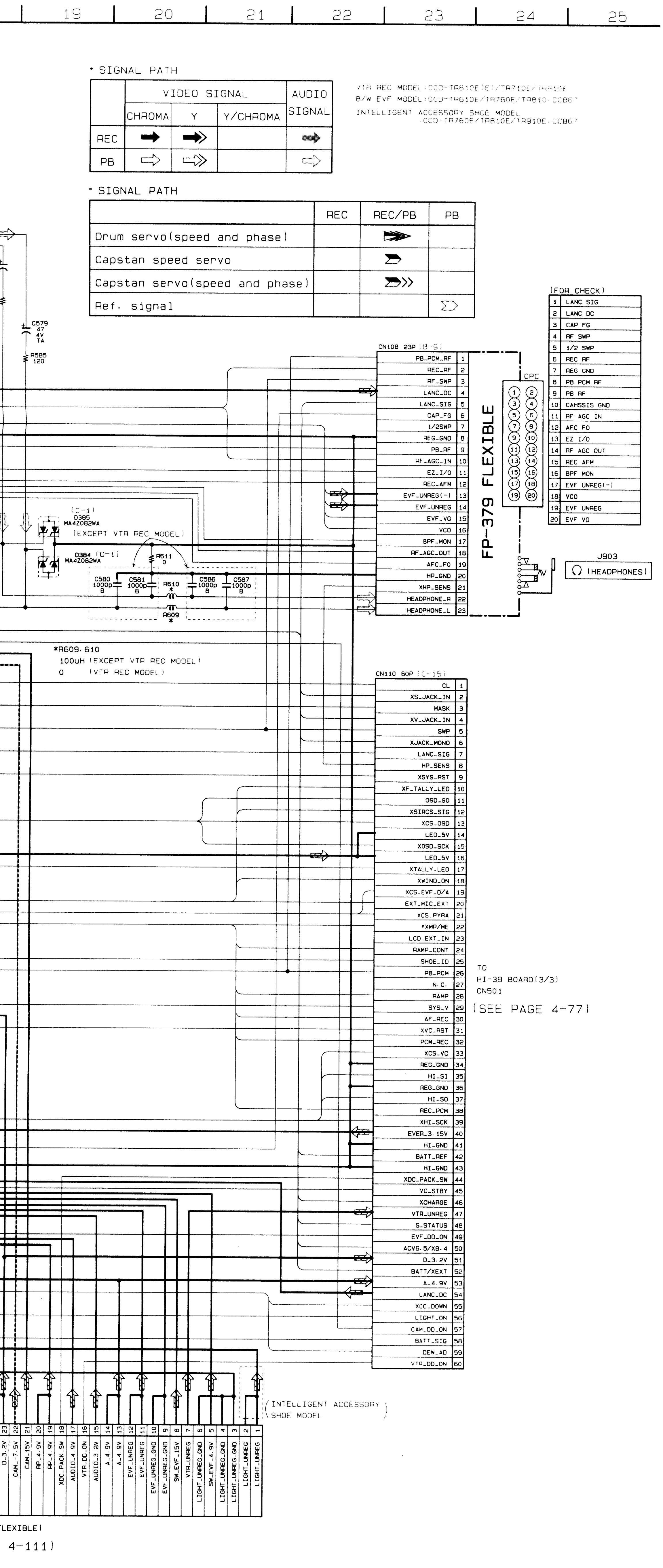
(SEE PAGE 4-58)
(SEE PAGE 4-38)
TO VC-177 BOARD(6/14)
(35)
(SEE PAGE 4-41)
TO VC-177 BOARD(7/14)
(42)
(SEE PAGE 4-43)
TO VC-177 BOARD(8/14)
(46)
(SEE PAGE 4-43, 44)
TO VC-177 BOARD(8/14)
(45)
(SEE PAGE 4-60)
TO VC-177 BOARD(13/14)
(56)
TO VC-177 BOARD(12/14)
(54)
• SIGNAL PATH
VIDEO SIGNAL
CHROMA
Y
Y/CHROM
REC
PB
• SIGNAL PATH
Drum servo(speed and phas
Capstan speed servo
Capstan servo(speed and p
Ref. signal
(B/W EVF MODEL)
Q588, 589
POWER MUTE
SWITCH
(C-1)(C-1)
Q589
UN9216J-(TX).SO
Q588
UN9216J-(TX).SO
D385
MA4Z082WA
(EXCEPT VTR REC MODEL)
D384 (C-1)
MA4Z082WA
C578
47
4V
TA
R584
120
C579
47
4V
TA
R585
120
R611
0
C580
1000p
B
C581
1000p
B
R610
C586
1000p
B
C587
1000p
B
R609
*R609, 610
100uH (EXCEPT VTR REC MODEL)
0 (VTR REC MODEL)
R668
0
D394
MA4Z082WA
(G-11)
(A-10) CN107 14P
(G-11) CN205 10P
(B-8) CN106 48P
(48)
BOARD(9/14)
GE 4-48)
(50)
TO VC-177 BOARD(10/14)
(SEE PAGE 4-52)
TO MA-268 BOARD
CN303
(SEE PAGE 4-88)
(INTELLIGENT ACCESSORY SHOE MODEL)
TO FP-383(FLEXIBLE)
(SEE PAGE 4-111)


19
20
21
22
23
24
25
C579
47
4V
TA
R585
120
(C-1)
D385
MA4Z082WA
(EXCEPT VTR REC MODEL)
D384 (C-1)
MA4Z082WA
R611
0
C580
1000p
B
C581
1000p
B
R610
*
C586
1000p
B
C587
1000p
B
R609
*
*R609, 610
100uH (EXCEPT VTR REC MODEL)
0 (VTR REC MODEL)
CN108 23P (B-9)
PB_PCM_RF 1
REC_RF 2
RF_SWP 3
LANC_DC 4
LANC_SIG 5
CAP_FG 6
1/2SWP 7
REG_GND 8
PB_RF 9
RF_AGC_IN 10
EZ_I/O 11
REC_AFM 12
EVF_UNREG(-) 13
EVF_UNREG 14
EVF_VG 15
VCO 16
BPF_MON 17
RF_AGC_OUT 18
AFC_FO 19
HP_GND 20
XHP_SENS 21
HEADPHONE_R 22
HEADPHONE_L 23
FP-379 FLEXIBLE
CPC
J903
(HEADPHONES)
CN110 60P (C-15)
CL 1
XS_JACK_IN 2
MASK 3
XV_JACK_IN 4
SWP 5
XJACK_MONO 6
LANC_SIG 7
HP_SENS 8
XSYS_RST 9
XF_TALLY_LED 10
OSD_SO 11
XSIRCS_SIG 12
XCS_OSD 13
LED_5V 14
XOSD_SCK 15
LED_5V 16
XTALLY_LED 17
XWIND_ON 18
XCS_EVF_D/A 19
EXT_MIC_EXT 20
XCS_PYRA 21
*XMP/NE 22
LCD_EXT_IN 23
RAMP_CONT 24
SHOE_IO 25
PB_PCM 26
N.C. 27
RAMP 28
SYS_V 29
AF_REC 30
XVC_RST 31
PCM_REC 32
XCS_VC 33
REG_GND 34
HI_SI 35
REG_GND 36
HI_SO 37
REC_PCM 38
XHI_SCK 39
EVER_3.15V 40
HI_GND 41
BATT_REF 42
HI_GND 43
XDC_PACK_SW 44
VC_STBY 45
XCHARGE 46
VTR_UNREG 47
S_STATUS 48
EVF_DD_ON 49
ACV6.5/X8.4 50
D_3.2V 51
BATT/XEXT 52
A_4.9V 53
LANC_DC 54
XCC_DOWN 55
LIGHT_ON 56
CAM_DD_ON 57
BATT_SIG 58
DEW_AD 59
VTR_DD_ON 60
TO
HI-39 BOARD(3/3)
CN501
(SEE PAGE 4-77)
(INTELLIGENT ACCESSORY SHOE MODEL)
D_3.2V 23
CAM_-7.5V 22
CAM_15V 21
RP_4.9V 20
RP_4.9V 19
XDC_PACK_SW 18
AUDIO_4.9V 17
VTR_DD_ON 16
AUDIO_3.2V 15
A_4.9V 14
A_4.9V 13
EVF_UNREG 12
EVF_UNREG 11
EVF_UNREG_GND 10
EVF_UNREG_GND 9
SW_EVF_15V 8
VTR_UNREG 7
LIGHT_UNREG_GND 6
SW_EVF_4.9V 5
LIGHT_UNREG_GND 4
LIGHT_UNREG_GND 3
LIGHT_UNREG 2
LIGHT_UNREG 1
LEXIBLE)
4-111)

• SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡»		➡
PB	⇨	⇨»		⇨

VTR REC MODEL:CCD-TR610E(E)/TR710E/TR910E
B/W EVF MODEL:CCD-TR610E/TR760E/TR810:CCB67
INTELLIGENT ACCESSORY SHOE MODEL
:CCD-TR760E/TR810E/TR910E:CCB67

• SIGNAL PATH

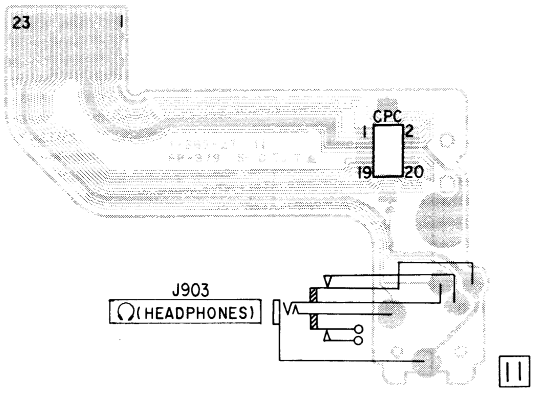
	REC	REC/PB	PB
Drum servo(speed and phase)		➡	
Capstan speed servo		➡	
Capstan servo(speed and phase)		➡»	
Ref. signal			⇨

(FOR CHECK)

1	LANC SIG
2	LANC DC
3	CAP FG
4	RF SWP
5	1/2 SWP
6	REC RF
7	REG GND
8	PB PCM RF
9	PB RF
10	CAHSSIS GND
11	RF AGC IN
12	AFC FO
13	EZ I/O
14	RF AGC OUT
15	REC AFM
16	BPF MON
17	EVF UNREG(-)
18	VCO
19	EVF UNREG
20	EVF VG

FP-379 (HEADPHONES) FLEXIBLE BOARD

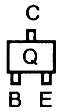
FP-379 BOARD


23
1
CPC
1
2
19
20
J903
(HEADPHONES)
11

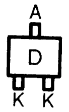
HI-39 (MODE CONTROL) PRINTED WIRING BOARD

— Ref No. HI-39 BOARD: 20,000 series —

- **For printed wiring boards.**
- This board is a four-layer print board. However, the patterns of layers 2 and 3 have not been included in the diagram.
- Chip transistor

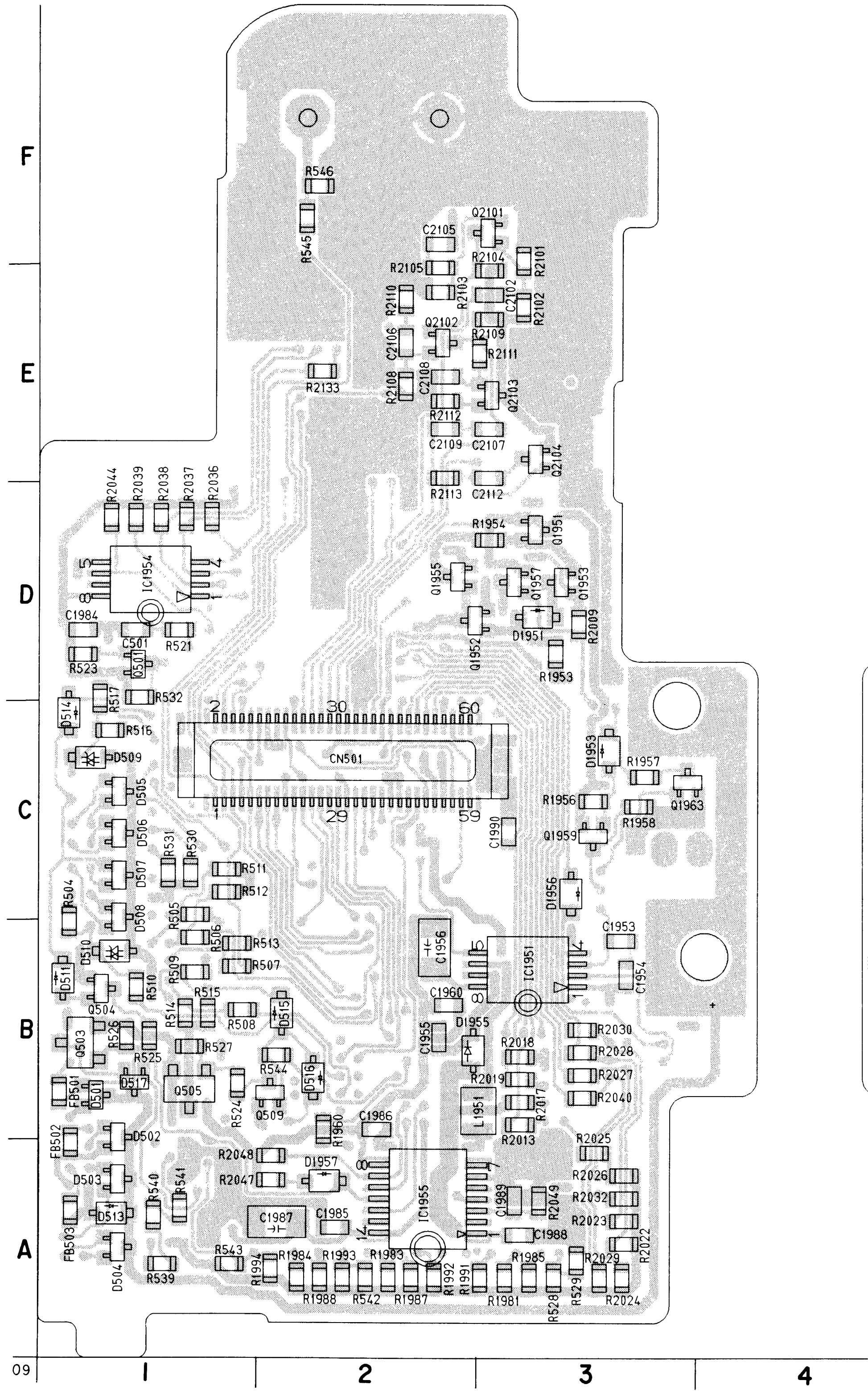


- Chip diode

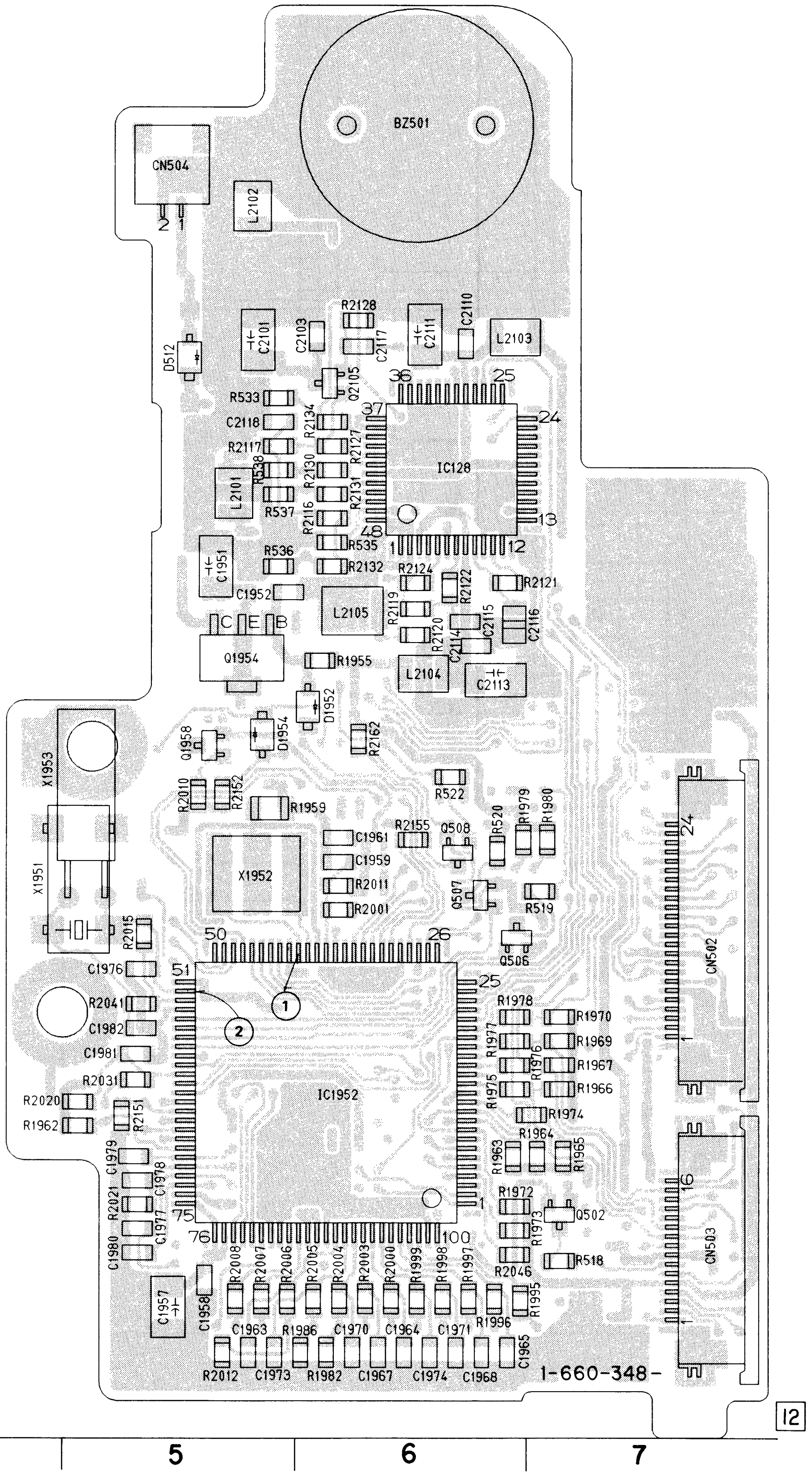


There are few cases that the part isn't mounted in this model is printed on this diagram.

HI-39 BOARD (CONDUCTOR SIDE)

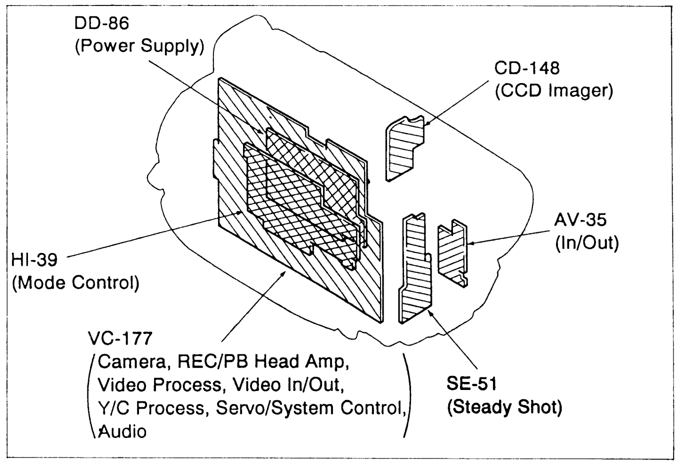

F
E
D
C
B
A
09
1
2
3
4
CN501
IC1951
IC1954
IC1955
L1951
Q2101
Q2102
Q2103
Q2104
Q503
Q504
Q505
Q509
Q1951
Q1952
Q1953
Q1955
Q1957
Q1959
Q1963
D1951
D1953
D1955
D1956
D1957
C1956
C1987
R546
R545
R2133

HI-39 BOARD (COMPONENT SIDE)


5
6
7
BZ501
CN504
CN502
CN503
IC128
IC1952
X1951
X1952
L2101
L2102
L2103
L2104
L2105
Q1954
Q502
Q506
Q507
Q508
D512
D1952
D1954
C1957
①
②
1-660-348-
12

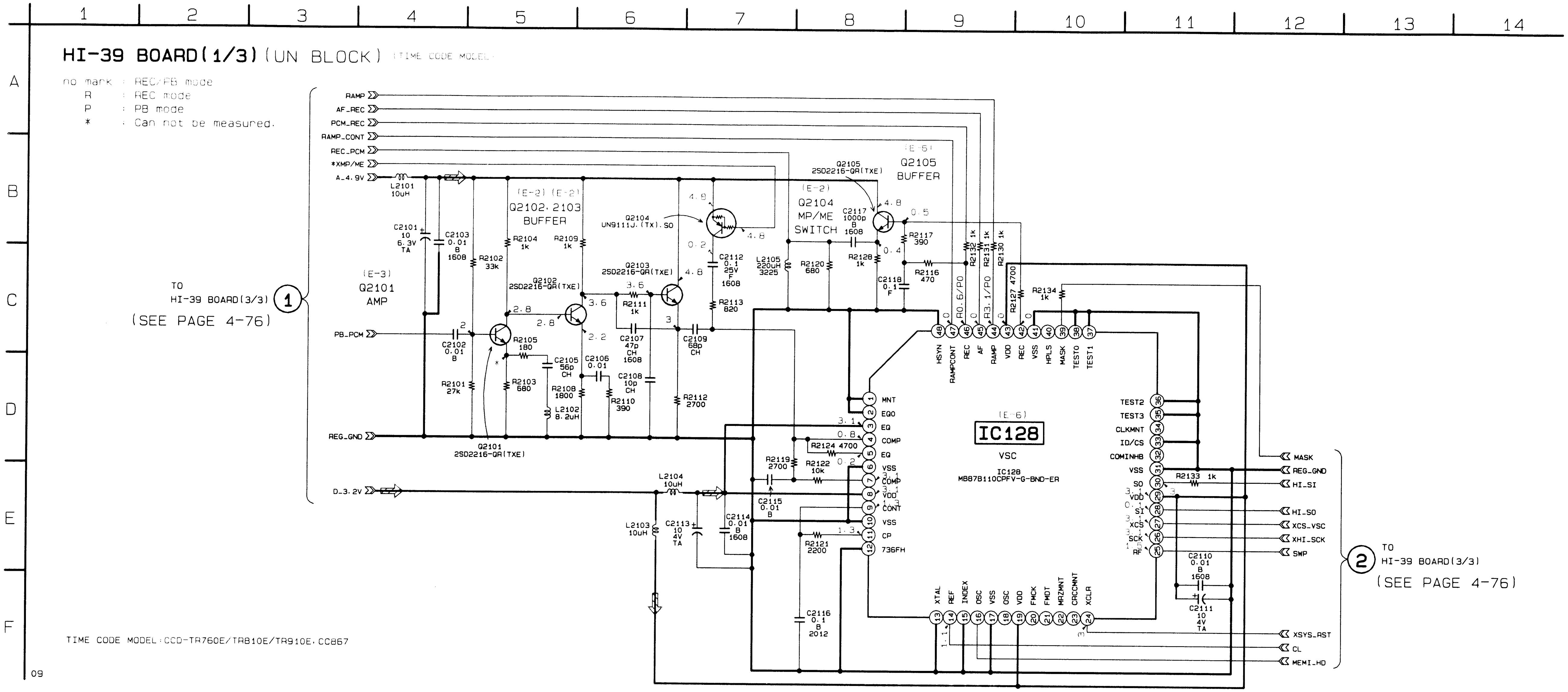
HI-39 BOARD

BZ501	E-6
C501	D-1
C1951	D-5
C1952	D-5
C1955	B-2
C1956	B-2
C1957	A-5
C1958	A-5
C1959	C-6
C1961	C-6
C1965	A-6
C1968	A-6
C1970	A-6
C1973	A-5
C1974	A-6
C1976	C-5
C1977	A-5
C1978	B-5
C1980	A-5
C1981	B-5
C1982	B-5
C1984	D-1
C1986	B-2
C1987	A-2
C1988	A-3
C1989	A-3
C1990	C-3
C2101	E-5
C2102	E-3
C2103	E-6
C2105	F-2
C2106	E-2
C2107	E-3
C2108	E-2
C2109	E-2
C2110	E-6
C2111	E-6
C2112	E-3
C2113	D-6
C2114	D-6
C2115	D-6
C2116	D-6
C2117	E-6
C2118	E-5
CN501	C-2
CN502	C-7
CN503	A-7
CN504	F-5
D501	B-1
D502	B-1
D503	A-1
D504	A-1
D511	B-1
D512	E-5
D514	C-1
D515	B-2
D516	B-2
D1951	D-3
D1952	D-6
D1953	C-3
D1954	D-5
D1955	B-2
D1956	C-3
D1957	A-2
FB501	B-1
FB502	A-1
FB503	A-1
IC128	E-6
IC1951	B-3
IC1952	B-6
IC1954	D-1
IC1955	A-2
L1951	B-2
L2101	E-5
L2102	E-5
L2103	E-6
L2104	D-6
L2105	D-6
Q501	D-1
Q502	A-7
Q503	B-1
Q504	B-1
Q505	B-1
Q506	C-6
Q507	C-6
Q508	C-6
Q509	B-2
Q1951	D-3
Q1952	D-2
Q1953	D-3
Q1954	D-5
Q1955	D-2
Q1959	C-3
Q1963	C-3
Q2101	F-3
Q2102	E-2
Q2103	E-3
Q2104	E-3
Q2105	E-6
R510	B-1
R511	C-1
R512	C-1
R513	B-1
R514	B-1
R515	B-1
R516	C-1
R518	A-7
R519	C-7
R520	C-6
R521	D-1
R522	C-6
R523	D-1
R524	B-1
R525	B-1
R526	B-1
R527	B-1
R528	A-3
R529	A-3
R530	C-1
R531	C-1
R533	E-5
R535	D-6
R536	D-5
R537	E-5
R538	E-5
R539	A-1
R540	A-1
R541	A-1
R542	A-2
R543	A-1
R545	F-2
R1953	D-3
R1954	D-3
R1955	D-6
R1956	C-3
R1957	C-3
R1958	C-3
R1959	C-5
R1960	B-2
R1962	B-5
R1963	B-6
R1964	B-7
R1965	B-7
R1966	B-7
R1967	B-7
R1969	B-7
R1970	B-7
R1972	A-6
R1973	A-6
R1974	B-6
R1975	B-6
R1976	B-6
R1977	B-6
R1978	B-6
R1979	C-6
R1980	C-7
R1981	A-3
R1982	A-6
R1983	A-2
R1984	A-2
R1985	A-3
R1986	A-5
R1987	A-2
R1988	A-2
R1991	A-3
R1992	A-2
R1993	A-2
R1994	A-2
R1995	A-6
R1996	A-6
R1997	A-6
R1998	A-6
R1999	A-6
R2000	A-6
R2001	C-6
R2003	A-6
R2004	A-6
R2005	A-6
R2006	A-5
R2007	A-5
R2008	A-5
R2011	C-6
R2012	A-5
R2013	B-3
R2015	C-5
R2017	B-3
R2018	B-3
R2019	B-3
R2020	B-5
R2021	B-5
R2022	A-3
R2023	A-3
R2024	A-3
R2025	A-3
R2026	A-3
R2027	B-3
R2028	B-3
R2029	A-3
R2030	B-3
R2031	B-5
R2032	A-3
R2036	D-1
R2037	D-1
R2038	D-1
R2039	D-1
R2040	B-3
R2041	B-5
R2044	D-1
R2046	A-6
R2047	A-2
R2048	A-2
R2049	A-3
R2101	F-3
R2102	E-3
R2103	E-2
R2104	E-3
R2105	E-2
R2108	E-2
R2109	E-3
R2110	E-2
R2111	E-3
R2112	E-2
R2113	E-2
R2116	D-6
R2117	E-5
R2119	D-6
R2120	D-6
R2121	D-6
R2122	D-6
R2124	D-6
R2127	E-6
R2128	E-6
R2130	E-6
R2131	E-6
R2132	D-6
R2133	E-2
R2134	E-6
R2151	B-5
R2152	C-5
R2155	C-6
R2162	D-6
X1951	C-5
X1952	C-5


DD-86
(Power Supply)
CD-148
(CCD Imager)
AV-35
(In/Out)
HI-39
(Mode Control)
VC-177
Camera, REC/PB Head Amp,
Video Process, Video In/Out,
Y/C Process, Servo/System Control,
Audio
SE-51
(Steady Shot)

HI-39 (MODE CONTROL (1)) SCHEMATIC DIAGRAM (TIME CODE MODEL)

— Ref No. HI-39 BOARD: 20,000 series —

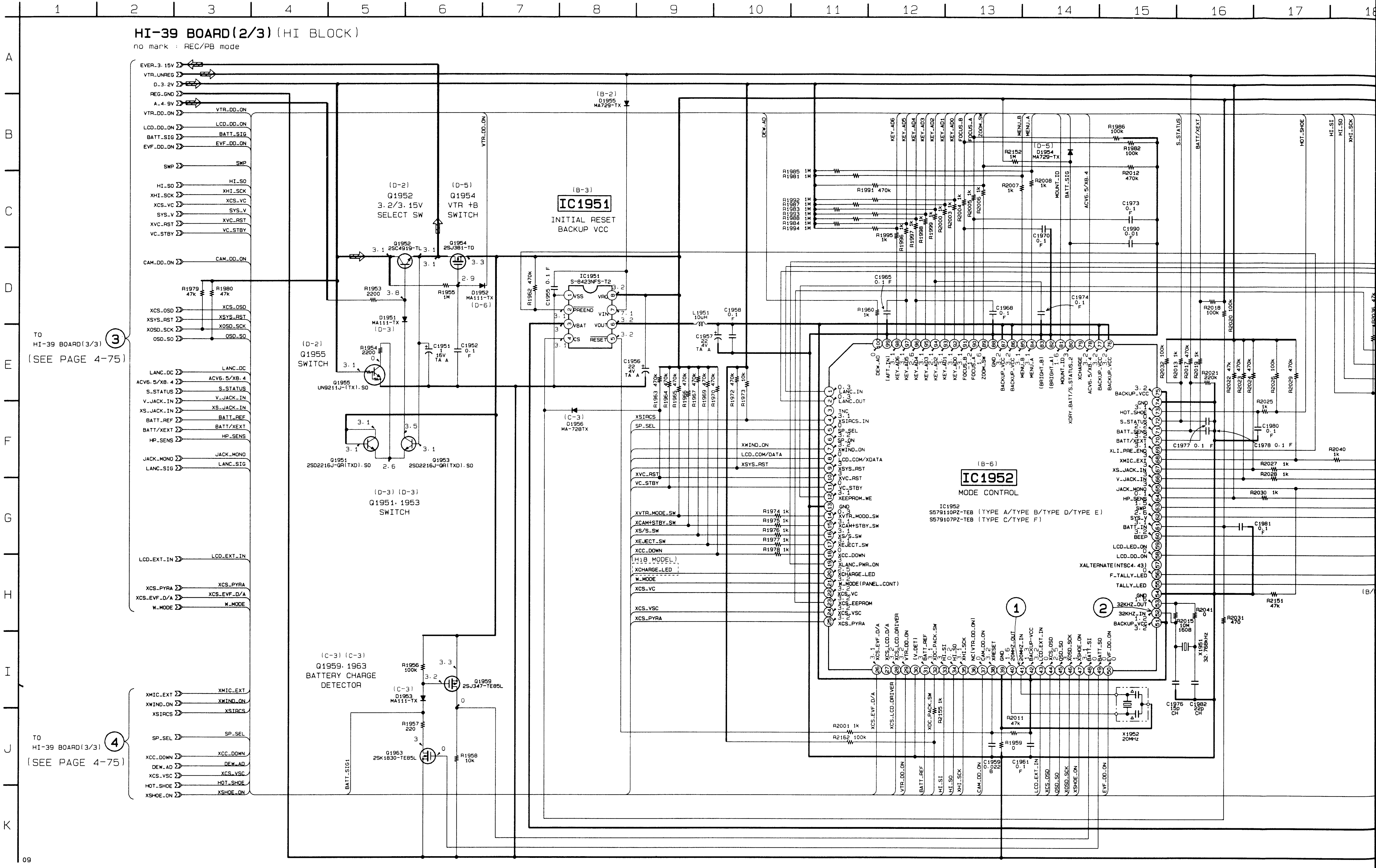


1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F
HI-39 BOARD(1/3)(UN BLOCK) (TIME CODE MODEL)
no mark : REC/PB mode
R : REC mode
P : PB mode
* : Can not be measured.
RAMP
AF_REC
PCM_REC
RAMP_CONT
REC_PCM
*XMP/ME
A_4.9V
L2101 10uH
PB_PCM
REG_GND
D_3.2V
TO HI-39 BOARD(3/3) ①
(SEE PAGE 4-76)
(E-3) Q2101 AMP
(E-2) (E-2) Q2102, 2103 BUFFER
Q2104 UN9111J-(TX).SO
(E-2) Q2104 MP/ME SWITCH
(E-5) Q2105 BUFFER
Q2105 2SD2216-QR(TXE)
Q2102 2SD2216-QR(TXE)
Q2103 2SD2216-QR(TXE)
Q2101 2SD2216-QR(TXE)
C2101 10 6.3V TA
C2103 0.01 B 1608
R2102 33k
C2102 0.01 B
R2101 27k
R2104 1k
R2109 1k
R2105 180
R2103 680
C2105 56p CH
C2106 0.01
C2108 10p CH
R2108 1800
L2102 8.2uH
R2110 390
R2111 1k
C2107 47p CH 1608
C2109 68p CH
R2112 2700
R2113 820
C2112 0.1 25V F 1608
L2105 220uH 3225
R2120 680
C2117 1000p B 1608
R2128 1k
C2118 0.1 F
R2117 390
R2116 470
R2132 1k
R2131 1k
R2130 1k
R2127 4700
R2134 1k
L2104 10uH
L2103 10uH
C2113 10 4V TA
C2114 0.01 B 1608
C2115 0.01 B
R2119 2700
R2124 4700
R2122 10k
R2121 2200
C2116 0.1 B 2012
(E-6) IC128 VSC
IC128 MB87B110CPFV-G-BND-ER
MNT EQ0 EQ COMP EQ VSS COMP VDD CONT VSS CP 736FH
HSYN RAMPCONT REC AF RAMP VDD REC VSS HPLS MASK TEST0 TEST1
TEST2 TEST3 CLKMNT ID/CS COMINHB VSS SO VDD SI XCS SCK RF
XTAL REF INDEX OSC VSS OSC VDD FMCK FMDT MRZMNT CRCCMNT XCLR
R0.6/P0
R3.1/P0
R2133 1k
C2110 0.01 B 1608
C2111 10 4V TA
MASK
REG_GND
HI_SI
HI_SO
XCS_VSC
XHI_SCK
SWP
XSYS_RST
CL
MEMI_HD
TO HI-39 BOARD(3/3) ②
(SEE PAGE 4-76)
TIME CODE MODEL:CCD-TR760E/TR810E/TR910E, CC867
09

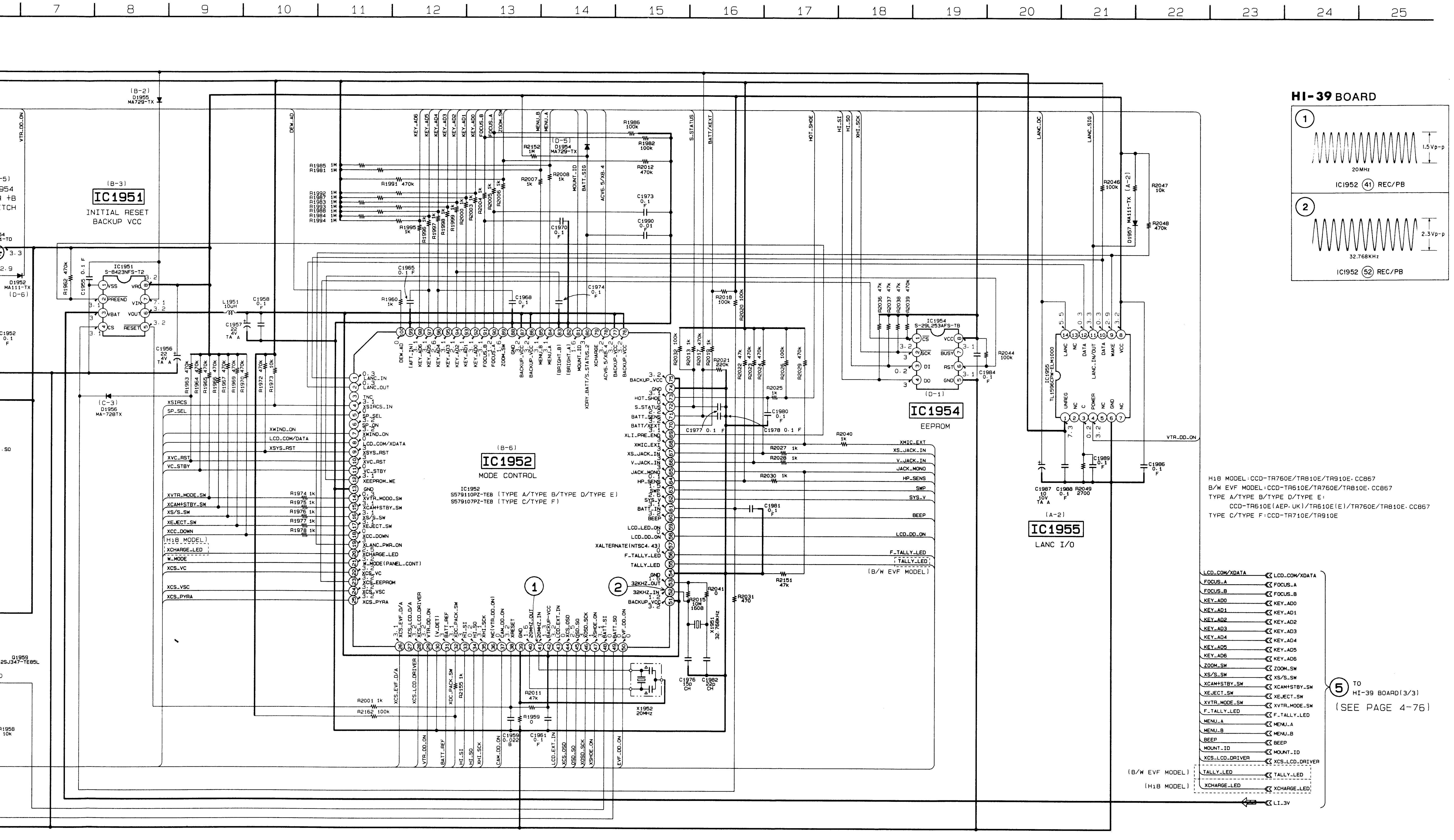
HI-39 (MODE CONTROL (2)) SCHEMATIC DIAGRAM

— Ref No. HI-39 BOARD: 20,000 series —

• Refer to page 4 – 67 for Printed Wiring Board.


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
A B C D E F G H I J K
HI-39 BOARD(2/3) (HI BLOCK)
no mark : REC/PB mode
EVER_3.15V
VTR_UNREG
D_3.2V
REG_GND
A_4.9V
VTR_DD_ON
LCD_DD_ON
BATT_SIG
EVF_DD_ON
SWP
HI_SO
XHI_SCK
XCS_VC
SYS_V
XVC_RST
VC_STBY
CAM_DD_ON
XCS_OSD
XSYS_RST
XOSD_SCK
OSD_SO
LANC_DC
ACV6.5/X8.4
S_STATUS
V_JACK_IN
XS_JACK_IN
BATT_REF
BATT/XEXT
HP_SENS
JACK_MONO
LANC_SIG
LCD_EXT_IN
XCS_PYRA
XCS_EVF_D/A
W_MODE
TO HI-39 BOARD(3/3) ③ (SEE PAGE 4-75)
XMIC_EXT
XWIND_ON
XSIRCS
SP_SEL
XCC_DOWN
DEW_AD
XCS_VSC
HOT_SHOE
XSHOE_ON
TO HI-39 BOARD(3/3) ④ (SEE PAGE 4-75)
R1979 47k
R1980 47k
(D-2) Q1952 3.2/3.15V SELECT SW
(D-5) Q1954 VTR +B SWITCH
Q1952 2SC4919-TL
Q1954 2SJ381-TD
R1953 2200
R1955 1M
D1952 MA111-TX (D-6)
D1951 MA111-TX (D-3)
R1954 2200
(D-2) Q1955 SWITCH
Q1955 UN9211J-(TX).SO
C1951 1 16V TA A
C1952 0.1 F
Q1951 2SD2216J-QR(TXD).SO
Q1953 2SD2216J-QR(TXD).SO
(D-3) (D-3) Q1951, 1953 SWITCH
(C-3) (C-3) Q1959, 1963 BATTERY CHARGE DETECTOR
R1956 100k
Q1959 2SJ347-TE85L
(C-3) D1953 MA111-TX
R1957 220
Q1963 2SK1830-TE85L
R1958 10k
BATT_SIG1
VTR_DD_ON
(B-2) D1955 MA729-TX
(B-3) IC1951 INITIAL RESET BACKUP VCC
IC1951 S-8423NFS-T2
VSS VRO PREEND VIN VBAT VOUT CS RESET
R1962 470k
C1955 0.1 F
L1951 10uH
C1958 0.1 F
C1957 22 4V TA A
C1956 22 4V TA A
(C-3) D1956 MA-728TX
R1963 470k R1964 470k R1965 470k R1966 470k R1967 470k R1968 470k R1969 470k R1970 470k R1972 470k R1973 10k
XSIRCS
SP_SEL
XWIND_ON
LCD_COM/DATA
XSYS_RST
XVC_RST
VC_STBY
XVTR_MODE_SW
XCAM+STBY_SW
XS/S_SW
XEJECT_SW
XCC_DOWN
(H18 MODEL)
XCHARGE_LED
W_MODE
XCS_VC
XCS_VSC
XCS_PYRA
R1974 1k R1975 1k R1976 1k R1977 1k R1978 1k
DEW_AD
KEY_AD6 KEY_AD5 KEY_AD4 KEY_AD3 KEY_AD2 KEY_AD1 KEY_AD0
FOCUS_A FOCUS_B ZOOM_SW
MENU_B MENU_A
R1985 1M R1981 1M
R1991 470k
R1990 1M R1987 1M R1983 1M R1993 1M R1988 1M R1984 1M R1994 1M
R1995 1k R1996 1k R1997 1k R1998 1k R1999 1k R2000 1k R2003 1k R2004 1k R2005 1k R2006 1k
R2152 1M
(D-5) D1954 MA729-TX
R2007 1k R2008 1k
MOUNT_ID
BATT_SIG
ACV6.5/X8.4
R1986 100k
R1982 100k
R2012 470k
C1973 0.1 F
C1990 0.01 F
C1970 0.1 F
C1965 0.1 F
R1960 1k
C1968 0.1 F
C1974 0.1 F
S_STATUS
BATT/XEXT
HOT_SHOE
HI_SI HI_SO XHI_SCK
(B-6) IC1952 MODE CONTROL
IC1952 S579110PZ-TEB (TYPE A/TYPE B/TYPE D/TYPE E)
S579107PZ-TEB (TYPE C/TYPE F)
DEW_AD (AFT_IN) KEY_AD6 KEY_AD5 KEY_AD4 KEY_AD3 KEY_AD2 KEY_AD1 KEY_AD0 FOCUS_B FOCUS_A ZOOM_SW BACKUP_VCC BACKUP_VCC MENU_B MENU_A (BRIGHT_B) (BRIGHT_A) MOUNT_ID XDRY_BATT/S_STATUS_2 XCHARGE ACV6.5/X8.4 BACKUP_VCC BACKUP_VCC
LANC_IN LANC_OUT INC XSIRCS_IN SP_SEL SP_ON XWIND_ON LCD_COM/XDATA XSYS_RST XVC_RST VC_STBY XEEPROM_WE GND XVTR_MODD_SW XCAM+STBY_SW XS/S_SW XEJECT_SW XCC_DOWN XLANC_PWR_ON XCHARGE_LED W_MODE(PANEL_CONT) XCS_VC XCS_EEPROM XCS_VSC XCS_PYRA
BACKUP_VCC GND HOT_SHOE S_STATUS BATT_SENS BATT/XEXT XLI_PRE_END XMIC_EXT XS_JACK_IN V_JACK_IN JACK_MONO HP_SENS SWP SYS_V BATT_IN BEEP LCD_LED_ON LCD_DD_ON XALTERNATE(NTSC4.43) F_TALLY_LED TALLY_LED GND 32KHZ_OUT 32KHZ_IN BACKUP_VCC
XCS_EVF_D/A XCS_LCD_D/A XCS_LCD_DRIVER VTR_DD_ON (V_DET) BATT_REF XDC_PACK_SW HI_SI HI_SO XHI_SCK NC(VTR_DD_ON) CAM_DD_ON XRESET GND 20MHZ_OUT 20MHZ_IN BACKUP_VCC LCD_EXT_IN XCS_OSD OSD_SO XOSD_SCK XSHOE_ON BATT_SO EVF_DD_ON
① ②
C1977 0.1 F
C1978 0.1 F
C1980 0.1 F
R2025 1k
R2027 1k R2028 1k R2030 1k
R2040 1k
R2018 100k R2020 100k
R2032 100k R2013 1k R2017 470k R2019 1k R2021 220k R2022 47k R2023 470k R2024 470k R2026 100k R2029 470k
C1981 0.1 F
R2151 47k
R2041 0
R2031 470
R2015 10M 1608
X1951 32.768kHz
C1976 15p CH
C1982 22p CH
X1952 20MHz
R2001 1k
R2162 100k
R2155 1k
R2011 47k
R1959 0
C1959 0.022 B
C1961 0.1 F
XCS_EVF_D/A XCS_LCD_DRIVER XDC_PACK_SW VTR_DD_ON BATT_REF HI_SI HI_SO XHI_SCK CAM_DD_ON LCD_EXT_IN XCS_OSD OSD_SO XOSD_SCK XSHOE_ON EVF_DD_ON
(B/
09

• Refer to page 4 –67 for Printed Wiring Board.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HI-39 BOARD
①
1.5Vp-p
20MHz
IC1952 (41) REC/PB
②
2.3Vp-p
32.768KHz
IC1952 (52) REC/PB
(B-3)
IC1951
INITIAL RESET
BACKUP VCC
IC1951
S-8423NFS-T2
(B-6)
IC1952
MODE CONTROL
IC1952
S579110PZ-TEB (TYPE A/TYPE B/TYPE D/TYPE E)
S579107PZ-TEB (TYPE C/TYPE F)
(D-1)
IC1954
EEPROM
IC1954
S-29L253AFS-TB
(A-2)
IC1955
LANC I/O
IC1955
TL1596CPM-ELM1000
(B-2)
D1955
MA729-TX
(D-5)
D1954
MA729-TX
(C-3)
D1956
MA-728TX
D1952
MA111-TX
D1957 MA111-TX (A-2)
X1952
20MHz
X1951
32.768kHz
L1951
10uH
Q1959
2SJ347-TE85L
LCD_COM/XDATA
FOCUS_A
FOCUS_B
KEY_AD0
KEY_AD1
KEY_AD2
KEY_AD3
KEY_AD4
KEY_AD5
KEY_AD6
ZOOM_SW
XS/S_SW
XCAM+STBY_SW
XEJECT_SW
XVTR_MODE_SW
F_TALLY_LED
MENU_A
MENU_B
BEEP
MOUNT_ID
XCS_LCD_DRIVER
TALLY_LED
XCHARGE_LED
LI_3V
(B/W EVF MODEL)
(Hi8 MODEL)
⑤
TO
HI-39 BOARD(3/3)
(SEE PAGE 4-76)
VTR_DD_ON
XMIC_EXT
XS_JACK_IN
V_JACK_IN
JACK_MONO
HP_SENS
SWP
SYS_V
BEEP
LCD_DD_ON
F_TALLY_LED
TALLY_LED
(B/W EVF MODEL)
XSIRCS
SP_SEL
XWIND_ON
LCD_COM/DATA
XSYS_RST
XVC_RST
VC_STBY
XVTR_MODE_SW
XCAM+STBY_SW
XS/S_SW
XEJECT_SW
XCC_DOWN
(Hi8 MODEL)
XCHARGE_LED
W_MODE
XCS_VC
XCS_VSC
XCS_PYRA
XCS_EVF_D/A
XCS_LCD_DRIVER
XDC_PACK_SW
VTR_DD_ON
BATT_REF
HI_SI
HI_SO
XHI_SCK
CAM_DD_ON
LCD_EXT_IN
XCS_OSD
OSD_SO
XOSD_SCK
XSHOE_ON
EVF_DD_ON
DEW_AD
S_STATUS
BATT/XEXT
HOT_SHOE
LANC_DC
LANC_SIG

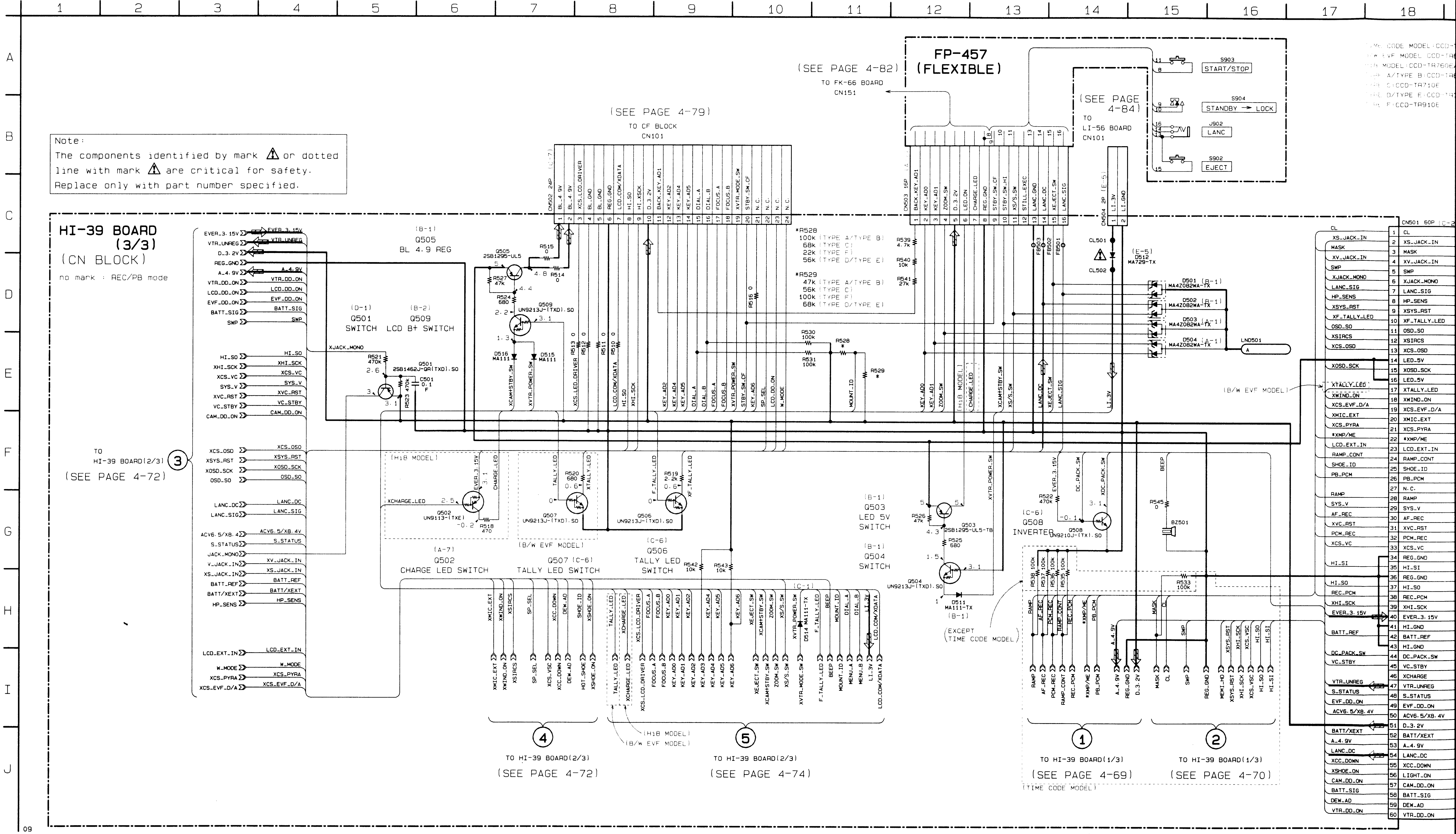
Hi8 MODEL:CCD-TR760E/TR810E/TR910E, CC867
B/W EVF MODEL:CCD-TR610E/TR760E/TR810E, CC867
TYPE A/TYPE B/TYPE D/TYPE E:
CCD-TR610E(AEP, UK)/TR610E(E)/TR760E/TR810E, CC867
TYPE C/TYPE F:CCD-TR710E/TR910E

HI-39 (MODE CONTROL (3)), FP-457 (FUNCTION SW) SCHEMATIC DIAGRAMS

— Ref No. HI-39 BOARD: 20,000 series —

• Refer to page 4 – 67 for Printed Wiring Board.

Note:
The components identified by mark ⚠ or dotted
line with mark ⚠ are critical for safety.
Replace only with part number specified.



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A
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C
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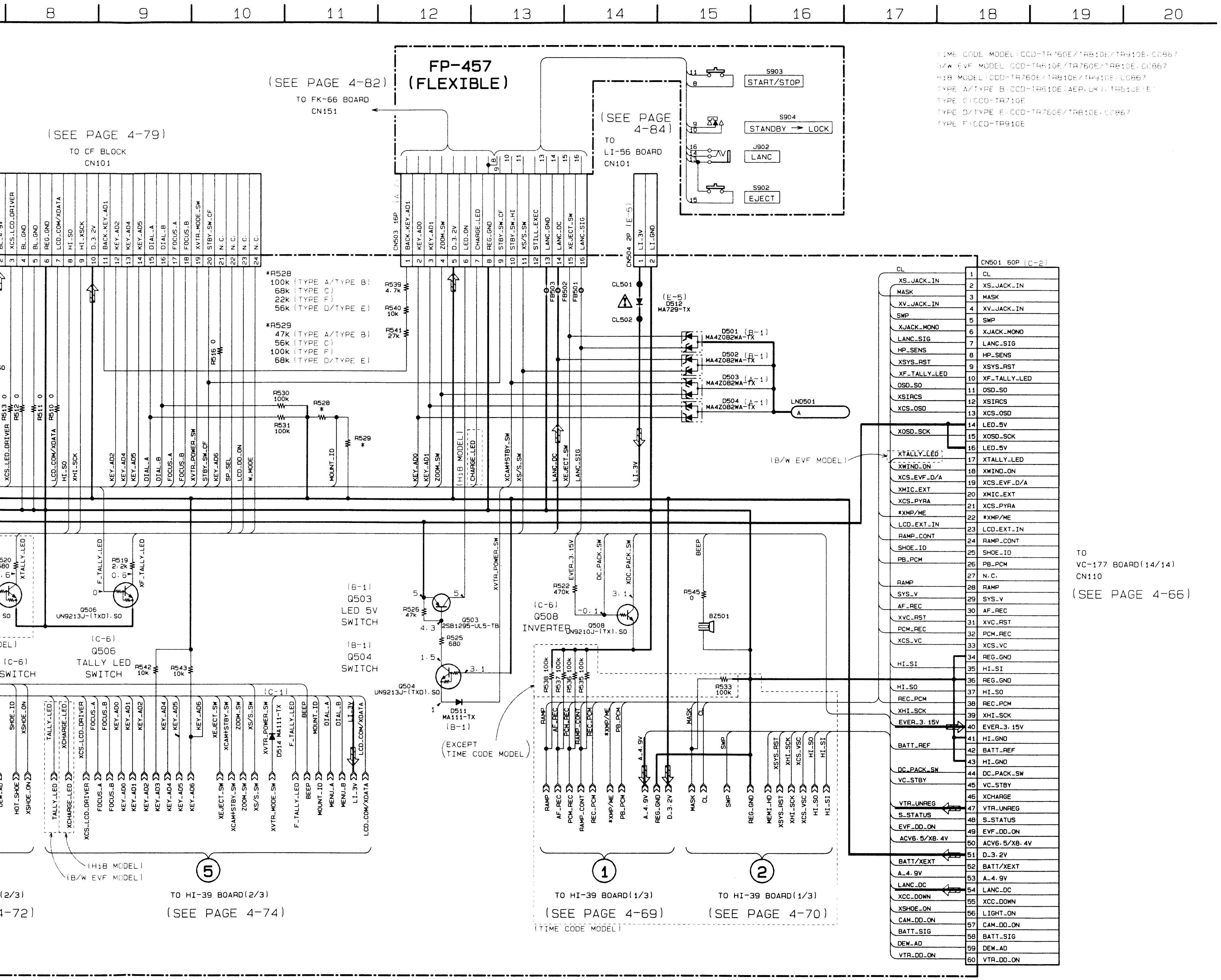
E
F
G
H
I
J
FP-457
(FLEXIBLE)
(SEE PAGE 4-82)
TO FK-66 BOARD
CN151
(SEE PAGE 4-84)
TO LI-56 BOARD
CN101
(SEE PAGE 4-79)
TO CF BLOCK
CN101
S903
START/STOP
S904
STANDBY → LOCK
J902
LANC
S902
EJECT
HI-39 BOARD
(3/3)
(CN BLOCK)
no mark : REC/PB mode
CN502 24P
CN503 16P
CN504 2P
CN501 60P
Q505
BL 4.9 REG
Q501
SWITCH
Q509
LCD B+ SWITCH
Q502
CHARGE LED SWITCH
Q507
TALLY LED SWITCH
Q506
TALLY LED SWITCH
Q503
LED 5V SWITCH
Q504
SWITCH
Q508
INVERTER
BZ501
LND501
D501
D502
D503
D504
D512
MA729-TX
D511
MA111-TX
D514 MA111-TX
D515 MA111
D516 MA111
2SB1295-UL5
2SB1462J-QR(TXD).SO
UN9213J-(TXD).SO
UN9113-(TXE)
UN9210J-(TX).SO
MA4Z082WA-TX
*R528
100k (TYPE A/TYPE B)
68k (TYPE C)
22k (TYPE F)
56k (TYPE D/TYPE E)
*R529
47k (TYPE A/TYPE B)
56k (TYPE C)
100k (TYPE F)
68k (TYPE D/TYPE E)
(H18 MODEL)
(B/W EVF MODEL)
(EXCEPT TIME CODE MODEL)
(TIME CODE MODEL)
③
TO HI-39 BOARD(2/3)
(SEE PAGE 4-72)
④
TO HI-39 BOARD(2/3)
(SEE PAGE 4-72)
⑤
TO HI-39 BOARD(2/3)
(SEE PAGE 4-74)
①
TO HI-39 BOARD(1/3)
(SEE PAGE 4-69)
②
TO HI-39 BOARD(1/3)
(SEE PAGE 4-70)
EVER_3.15V
VTR_UNREG
D_3.2V
REG_GND
A_4.9V
VTR_DD_ON
LCD_DD_ON
EVF_DD_ON
BATT_SIG
SWP
HI_SO
XHI_SCK
XCS_VC
SYS_V
XVC_RST
VC_STBY
CAM_DD_ON
XCS_OSD
XSYS_RST
XOSD_SCK
OSD_SO
LANC_DC
LANC_SIG
ACV6.5/X8.4V
S_STATUS
JACK_MONO
V_JACK_IN
XS_JACK_IN
BATT_REF
BATT/XEXT
HP_SENS
LCD_EXT_IN
W_MODE
XCS_PYRA
XCS_EVF_D/A
1 CL
2 XS_JACK_IN
3 MASK
4 XV_JACK_IN
5 SWP
6 XJACK_MONO
7 LANC_SIG
8 HP_SENS
9 XSYS_RST
10 XF_TALLY_LED
11 OSD_SO
12 XSIRCS
13 XCS_OSD
14 LED_5V
15 XOSD_SCK
16 LED_5V
17 XTALLY_LED
18 XWIND_ON
19 XCS_EVF_D/A
20 XMIC_EXT
21 XCS_PYRA
22 *XMP/ME
23 LCD_EXT_IN
24 RAMP_CONT
25 SHOE_ID
26 PB_PCM
27 N.C.
28 RAMP
29 SYS_V
30 AF_REC
31 XVC_RST
32 PCM_REC
33 XCS_VC
34 REG_GND
35 HI_SI
36 REG_GND
37 HI_SO
38 REC_PCM
39 XHI_SCK
40 EVER_3.15V
41 HI_GND
42 BATT_REF
43 HI_GND
44 DC_PACK_SW
45 VC_STBY
46 XCHARGE
47 VTR_UNREG
48 S_STATUS
49 EVF_DD_ON
50 ACV6.5/X8.4V
51 D_3.2V
52 BATT/XEXT
53 A_4.9V
54 LANC_DC
55 XCC_DOWN
56 LIGHT_ON
57 CAM_DD_ON
58 BATT_SIG
59 DEW_AD
60 VTR_DD_ON
09

• Refer to page 4-67 for Printed Wiring Board.

FP-457 (FUNCTION SW) FLEXIBLE BOARD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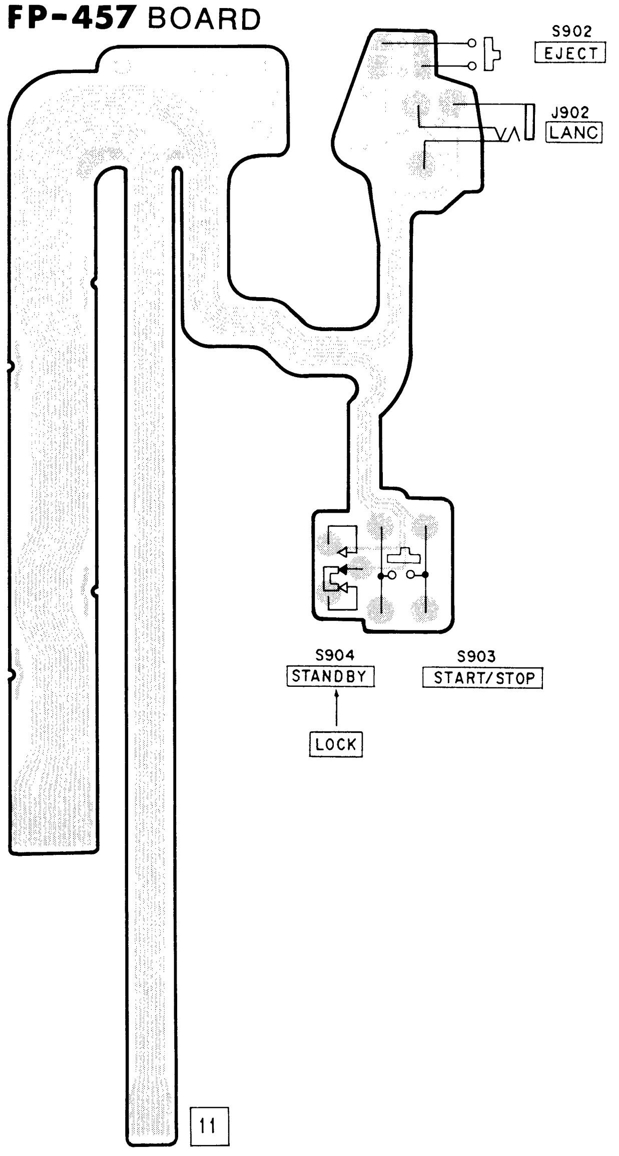
18
19
20
FP-457 (FLEXIBLE)
(SEE PAGE 4-82)
TO FK-66 BOARD CN151
(SEE PAGE 4-79)
TO CF BLOCK CN101
(SEE PAGE 4-84)
TO LI-56 BOARD CN101
S903 START/STOP
S904 STANDBY → LOCK
J902 LANC
S902 EJECT
CN503 16P
CN504 2P
CN501 60P
LND501
D501 MA4Z082WA-TX
D502 MA4Z082WA-TX
D503 MA4Z082WA-TX
D504 MA4Z082WA-TX
D512 MA729-TX
Q503 LED 5V SWITCH
Q504 SWITCH
Q506 TALLY LED SWITCH
Q508 INVERTER
BZ501
TO VC-177 BOARD(14/14) CN110
(SEE PAGE 4-66)
(B/W EVF MODEL)
(HI8 MODEL)
(EXCEPT TIME CODE MODEL)
(TIME CODE MODEL)
①
TO HI-39 BOARD(1/3)
(SEE PAGE 4-69)
②
TO HI-39 BOARD(1/3)
(SEE PAGE 4-70)
⑤
TO HI-39 BOARD(2/3)
(SEE PAGE 4-74)
(2/3)
4-72)
*R528 100k (TYPE A/TYPE B) 68k (TYPE C) 22k (TYPE F) 56k (TYPE D/TYPE E)
*R529 47k (TYPE A/TYPE B) 56k (TYPE C) 100k (TYPE F) 68k (TYPE D/TYPE E)

TIME CODE MODEL: CCD-TR760E/TR810E/TR910E, CC867
B/W EVF MODEL: CCD-TR610E/TR760E/TR810E, CC867
Hi8 MODEL: CCD-TR760E/TR810E/TR910E, CC867
TYPE A/TYPE B: CCD-TR610E(AEP, UK)/TR610E(E)
TYPE C: CCD-TR710E
TYPE D/TYPE E: CCD-TR760E/TR810E, CC867
TYPE F: CCD-TR910E

FP-457 BOARD

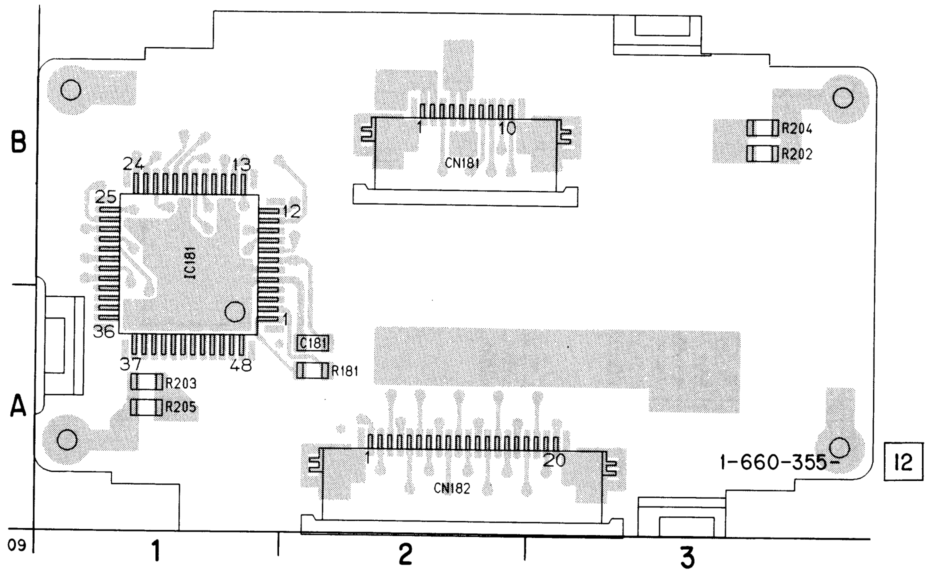

S902
EJECT
J902
LANC
S904
STANDBY
LOCK
S903
START/STOP
11

MODE CONTROL (3), FUNCTION SW
HI-39 (3/3), FP-457

LC-52 (LCD DRIVE) PRINTED WIRING BOARD

— Ref No. LC-52 BOARD: 7,000 series —

LC-52 BOARD



B
A
1
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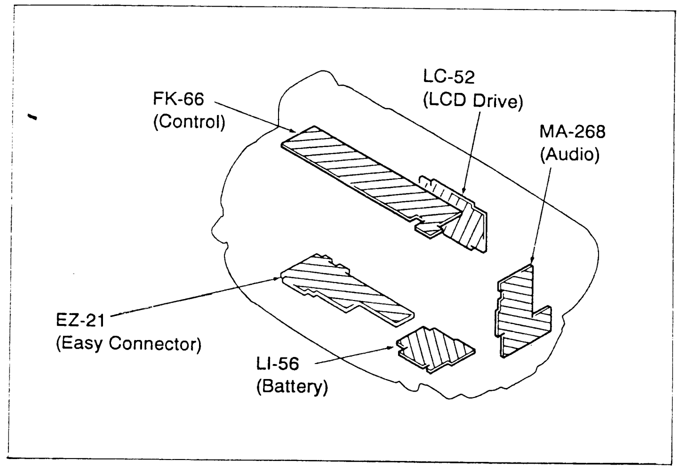
3
09
CN181
1
10
24
13
25
12
36
1
37
48
IC181
C181
R181
R203
R205
R204
R202
CN182
1
20
1-660-355-
12

LC-52 BOARD	
C181	A-2
CN181	B-2
CN182	A-2
IC181	B-1
R181	A-2
R202	B-3
R203	A-1

- **For printed wiring boards.**
- This board is a four-layer print board. However, the patterns of layers 2 and 3 have not been included in the diagram.

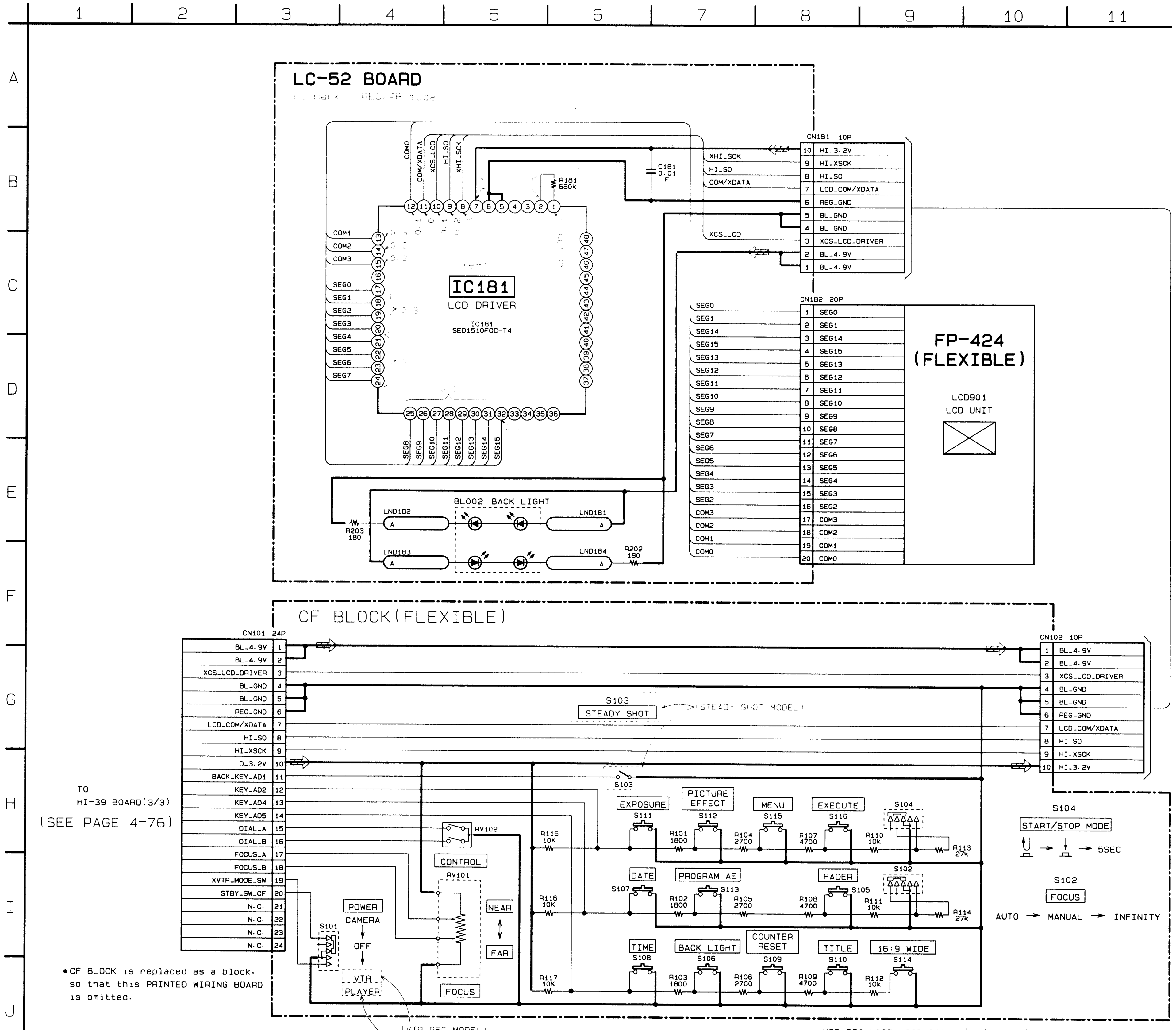
There are few cases that the part isn't mounted in this model is printed on this diagram.



FK-66
(Control)
LC-52
(LCD Drive)
MA-268
(Audio)
EZ-21
(Easy Connector)
LI-56
(Battery)

LC-52 (LCD DRIVE), CF BLOCK (FUNCTION KEYS) SCHEMATIC DIAGRAMS

— Ref No. LC-52 BOARD: 7,000 series —



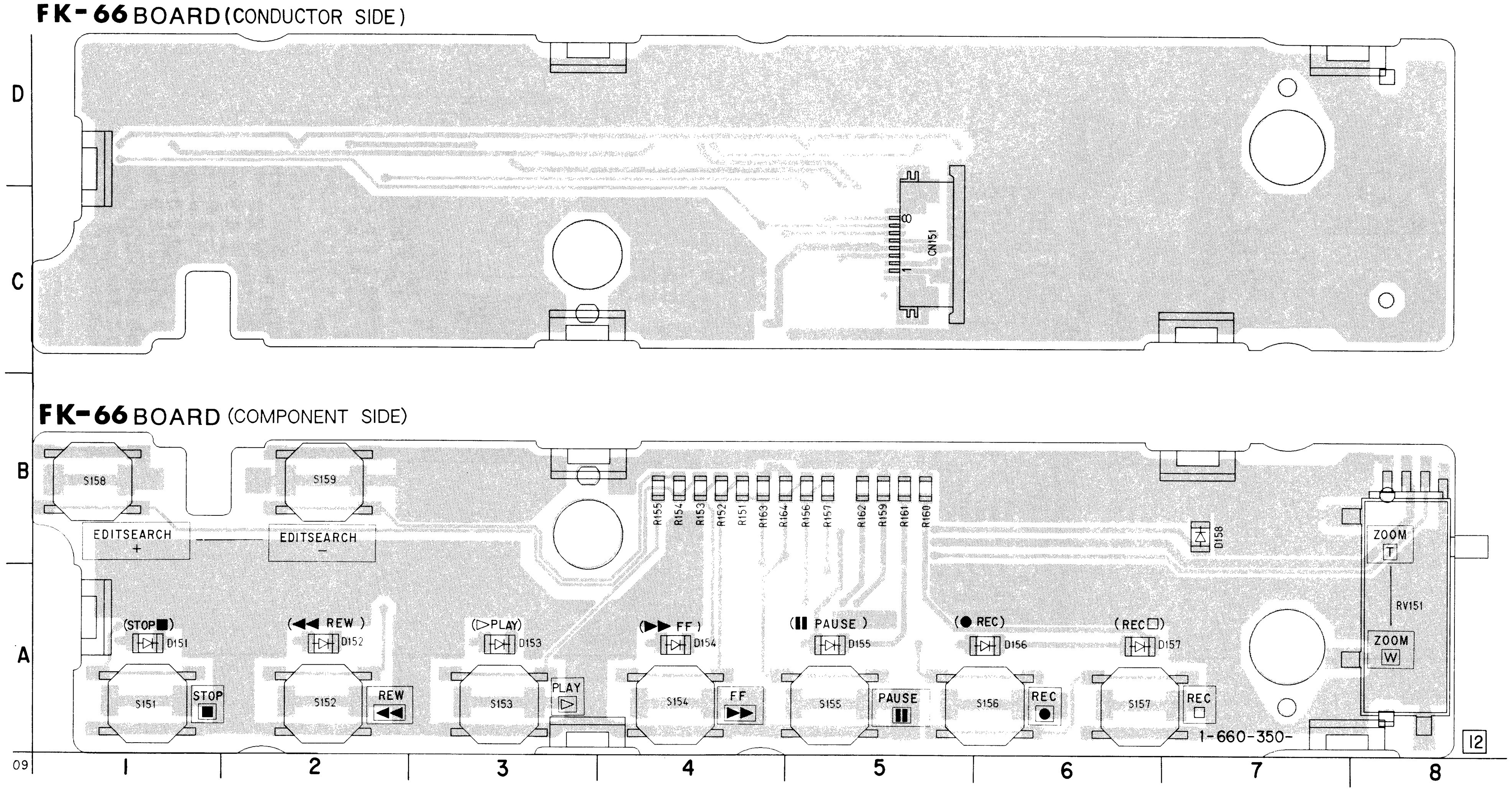
1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
LC-52 BOARD
REC/PB mode
COMO
COM/XDATA
XCS_LCD
HI_SO
XHI_SCK
R181
680k
C181
0.01
F
XHI_SCK
HI_SO
COM/XDATA
XCS_LCD
CN181 10P
HI_3.2V
HI_XSCK
HI_SO
LCD_COM/XDATA
REG_GND
BL_GND
BL_GND
XCS_LCD_DRIVER
BL_4.9V
BL_4.9V
COM1
COM2
COM3
SEG0
SEG1
SEG2
SEG3
SEG4
SEG5
SEG6
SEG7
IC181
LCD DRIVER
IC181
SED1510F0C-T4
SEG8
SEG9
SEG10
SEG11
SEG12
SEG13
SEG14
SEG15
CN182 20P
SEG0
SEG1
SEG14
SEG15
SEG13
SEG12
SEG11
SEG10
SEG9
SEG8
SEG7
SEG6
SEG5
SEG4
SEG3
SEG2
COM3
COM2
COM1
COMO
FP-424
(FLEXIBLE)
LCD901
LCD UNIT
BL002 BACK LIGHT
LND182
LND181
LND183
LND184
R203
180
R202
180
CF BLOCK (FLEXIBLE)
CN101 24P
BL_4.9V
BL_4.9V
XCS_LCD_DRIVER
BL_GND
BL_GND
REG_GND
LCD_COM/XDATA
HI_SO
HI_XSCK
D_3.2V
BACK_KEY_AD1
KEY_AD2
KEY_AD4
KEY_AD5
DIAL_A
DIAL_B
FOCUS_A
FOCUS_B
XVTR_MODE_SW
STBY_SW_CF
N.C.
N.C.
N.C.
N.C.
TO
HI-39 BOARD(3/3)
(SEE PAGE 4-76)
CN102 10P
BL_4.9V
BL_4.9V
XCS_LCD_DRIVER
BL_GND
BL_GND
REG_GND
LCD_COM/XDATA
HI_SO
HI_XSCK
HI_3.2V
S103
STEADY SHOT
(STEADY SHOT MODEL)
S103
EXPOSURE
S111
PICTURE
EFFECT
S112
MENU
S115
EXECUTE
S116
S104
RV102
CONTROL
RV101
R115
10K
R101
1800
R104
2700
R107
4700
R110
10k
R113
27k
DATE
S107
PROGRAM AE
S113
FADER
S105
S102
POWER
CAMERA
OFF
VTR
PLAYER
S101
NEAR
FAR
FOCUS
R116
10K
R102
1800
R105
2700
R108
4700
R111
10k
R114
27k
TIME
S108
BACK LIGHT
S106
COUNTER
RESET
S109
TITLE
S110
16:9 WIDE
S114
R117
10K
R103
1800
R106
2700
R109
4700
R112
10k
S104
START/STOP MODE
5SEC
S102
FOCUS
AUTO → MANUAL → INFINITY
(VTR REC MODEL)
(EXCEPT VTR REC MODEL)
09

•CF BLOCK is replaced as a block.
so that this PRINTED WIRING BOARD
is omitted.

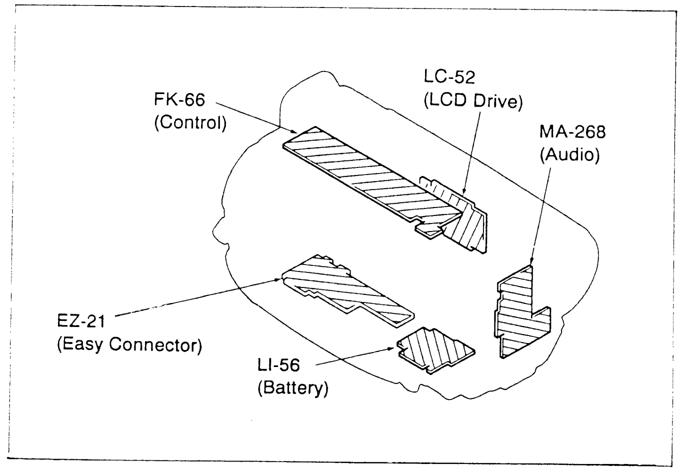
VTR REC MODEL:CCD-TR610E(E)/TR710E/TR910E
EXCEPT VTR REC MODEL:CCD-TR610E(AEP, UK)/TR760E/TR810E, CC867
STEADY SHOT MODEL:CCD-TR610E/TR710E/TR810E/TR910E

FK-66 (CONTROL) PRINTED WIRING BOARD

— Ref No. FK-66 BOARD: 3,000 series —


FK-66 BOARD (CONDUCTOR SIDE)
FK-66 BOARD (COMPONENT SIDE)
CN151
S158
S159
EDITSEARCH +
EDITSEARCH −
R155 R154 R153 R152 R151 R163 R164 R156 R157 R162 R159 R161 R160
D158
ZOOM T
RV151
ZOOM W
(STOP■) D151
(◀◀ REW) D152
(▷PLAY) D153
(▶▶ FF) D154
(II PAUSE) D155
(● REC) D156
(REC□) D157
S151 STOP ■
S152 REW ◀◀
S153 PLAY ▷
S154 FF ▶▶
S155 PAUSE II
S156 REC ●
S157 REC □
1-660-350-
12
D
C
B
A
1
2
3
4
5
6
7
8
09

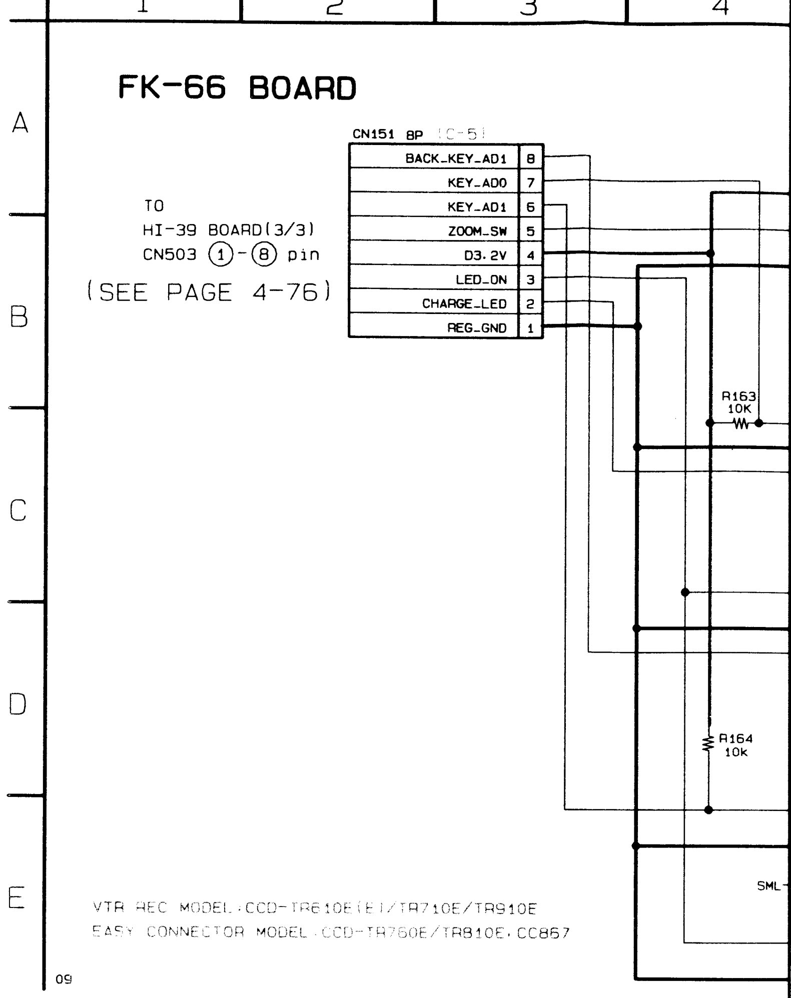
FK-66 BOARD	
CN151	C-5
D151	A-1
D152	A-2
D153	A-3
D154	A-4
D155	A-5
D156	A-6
D157	A-6
D158	B-7
R151	B-4
R152	B-4
R153	B-4
R154	B-4
R155	B-4
R156	B-5
R157	B-5
R159	B-5
R160	B-5
R161	B-5
R162	B-5
R163	B-4
R164	B-4
RV151	A-8
S151	A-1
S152	A-2
S153	A-3
S154	A-4
S155	A-5
S156	A-6
S157	A-6
S158	B-1
S159	B-2


FK-66
(Control)
LC-52
(LCD Drive)
MA-268
(Audio)
EZ-21
(Easy Connector)
LI-56
(Battery)

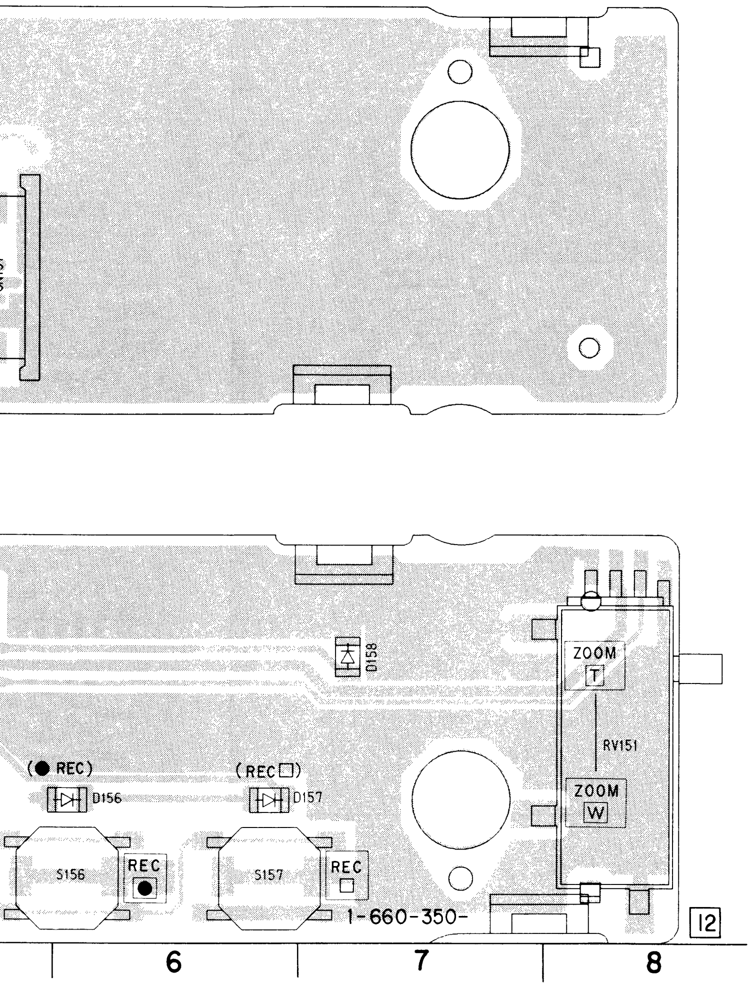
There are few cases that the part isn't mounted in this model is printed on this diagram.

FK-66 (CONTROL) SCHEMATIC DIAGRAM

— Ref No. FK-66 BOARD: 3,000 series —


1
2
3
4
A
B
C
D
E
FK-66 BOARD
CN151 8P (C-5)
BACK_KEY_AD1 8
KEY_AD0 7
KEY_AD1 6
ZOOM_SW 5
D3.2V 4
LED_ON 3
CHARGE_LED 2
REG_GND 1
TO
HI-39 BOARD(3/3)
CN503 ①-⑧ pin
(SEE PAGE 4-76)
R163 10K
R164 10k
SML-
09

VTR REC MODEL : CCD-TR610E(E)/TR710E/TR910E
EASY CONNECTOR MODEL : CCD-TR760E/TR810E, CC867

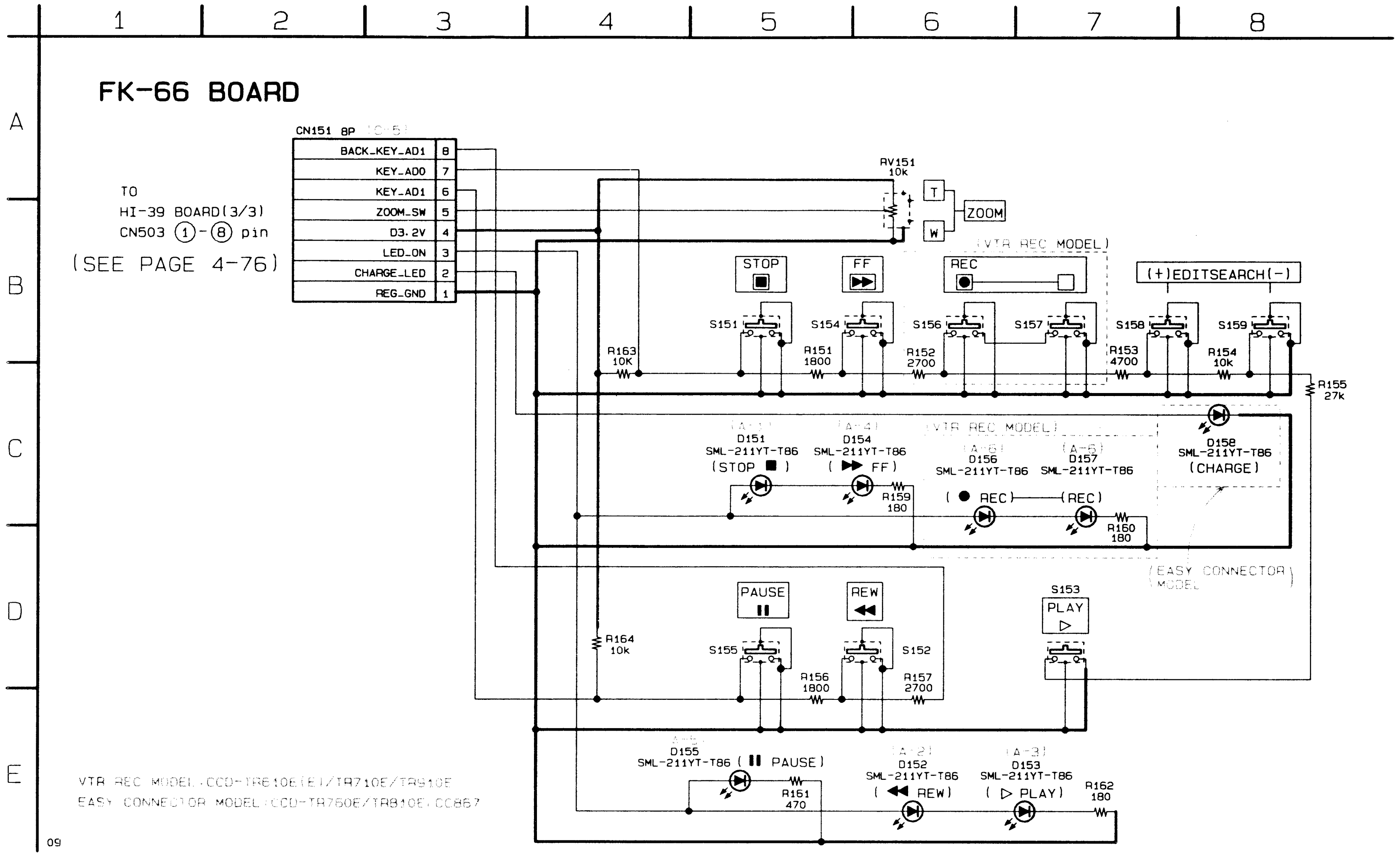

ZOOM
T
RV151
ZOOM
W
D158
(● REC)
D156
(REC□)
D157
S156
REC
S157
REC
1-660-350-
12
6
7
8

FK-66 BOARD	
CN151	C-5
D151	A-1
D152	A-2
D153	A-3
D154	A-4
D155	A-5
D156	A-6
D157	A-6
D158	B-7
R151	B-4
R152	B-4
R153	B-4
R154	B-4
R155	B-4
R156	B-5
R157	B-5
R159	B-5
R160	B-5
R161	B-5
R162	B-5
R163	B-4
R164	B-4
RV151	A-8
S151	A-1
S152	A-2
S153	A-3
S154	A-4
S155	A-5
S156	A-6
S157	A-6
S158	B-1
S159	B-2

his model is

FK-66 (CONTROL) SCHEMATIC DIAGRAM

— Ref No. FK-66 BOARD: 3,000 series —


1
2
3
4
5
6
7
8
A
B
C
D
E
FK-66 BOARD
CN151 8P (C-5)
BACK_KEY_AD1 8
KEY_AD0 7
KEY_AD1 6
ZOOM_SW 5
D3.2V 4
LED_ON 3
CHARGE_LED 2
REG_GND 1
TO
HI-39 BOARD(3/3)
CN503 ①-⑧ pin
(SEE PAGE 4-76)
RV151
10k
T
W
ZOOM
(VTR REC MODEL)
STOP ■
FF ▶▶
REC ●
(+)EDITSEARCH(-)
S151
S154
S156
S157
S158
S159
R163 10K
R151 1800
R152 2700
R153 4700
R154 10k
R155 27k
D151 SML-211YT-T86 (STOP ■)
D154 SML-211YT-T86 (▶▶ FF)
D156 SML-211YT-T86 (● REC)
D157 SML-211YT-T86 (REC)
D158 SML-211YT-T86 (CHARGE)
R159 180
R160 180
(EASY CONNECTOR MODEL)
PAUSE II
REW ◀◀
S153
PLAY ▷
S155
S152
R164 10k
R156 1800
R157 2700
D155 SML-211YT-T86 (II PAUSE)
R161 470
D152 SML-211YT-T86 (◀◀ REW)
D153 SML-211YT-T86 (▷ PLAY)
R162 180
VTR REC MODEL : CCD-TR610E(E)/TR710E/TR910E
EASY CONNECTOR MODEL : CCD-TR760E/TR810E/CC867
09

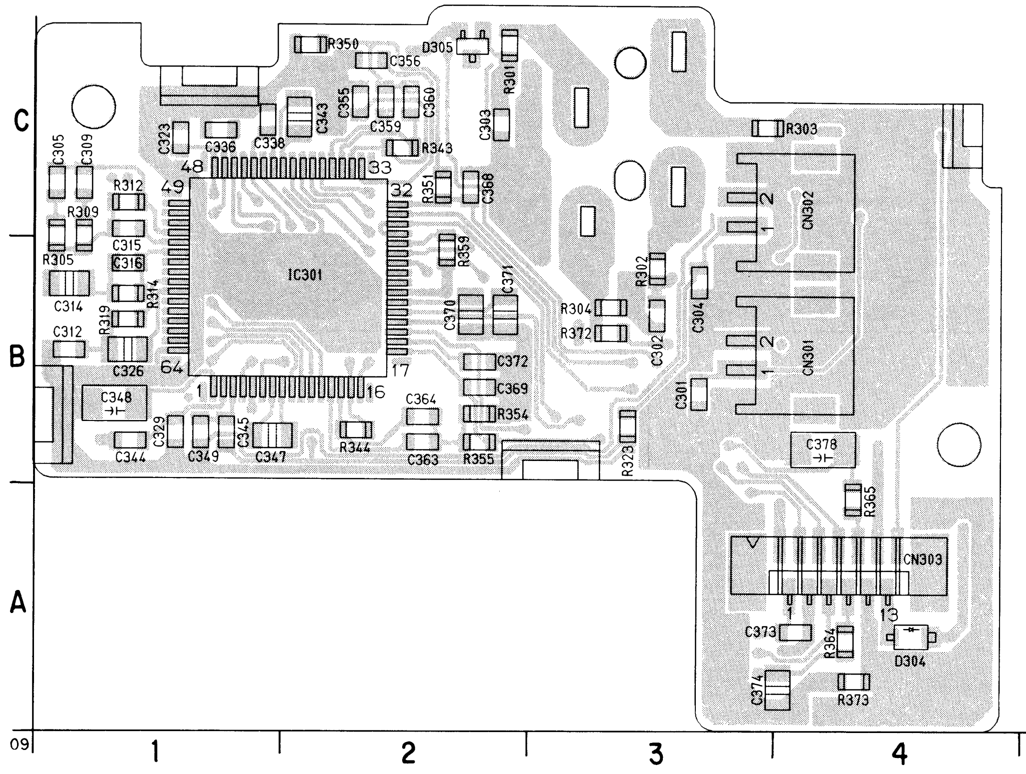
MA-268 (AUDIO) PRINTED WIRING BOARD

— Ref No. MA-268 BOARD: 4,000 series —

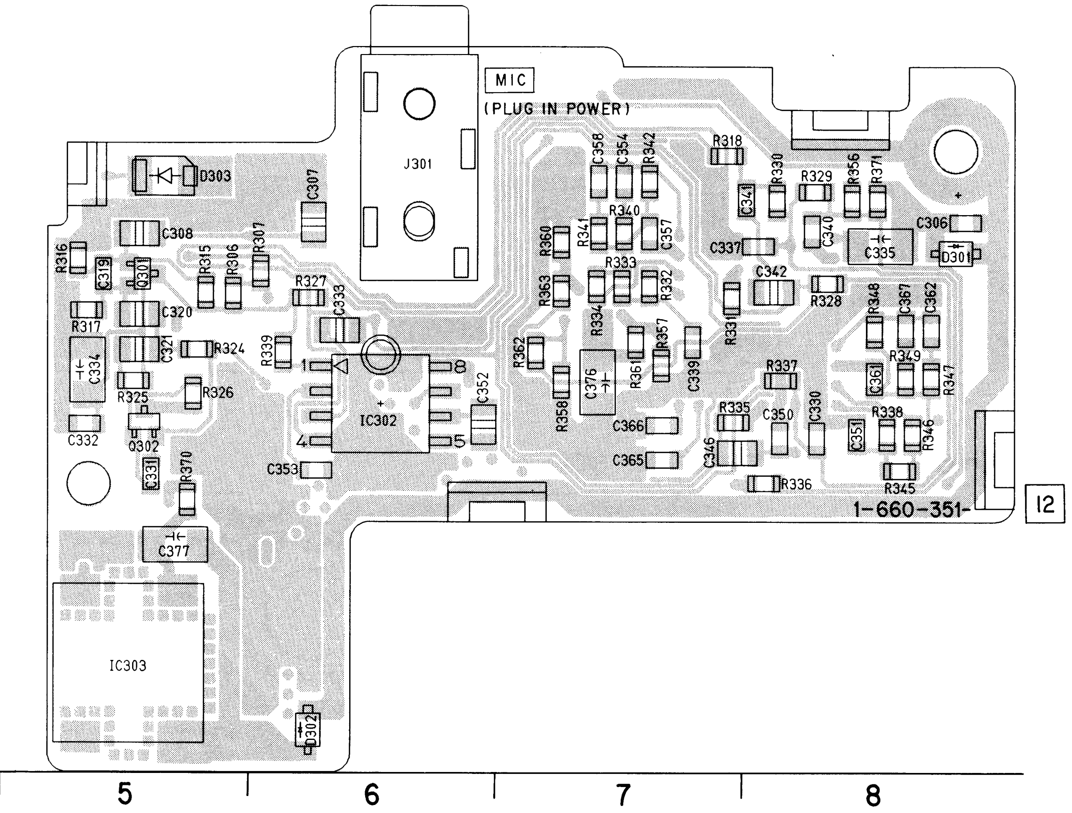
MA-268 BOARD

C302	B-3
C303	C-2
C314	B-1
C315	C-1
C323	C-1
C326	B-1
C329	B-1
C330	B-8
C335	C-8
C336	C-1
C337	C-8
C338	C-1
C339	B-7
C340	C-8
C341	C-8
C342	B-8
C343	C-2
C344	B-1
C345	B-1
C346	B-8
C347	B-1
C348	B-1
C349	B-1
C351	B-8
C354	C-7
C355	C-2
C356	C-2
C357	C-7
C359	C-2
C360	C-2
C361	B-8
C363	B-2
C364	B-2
C365	B-7
C366	B-7
C367	B-8
C368	C-2
C369	B-2
C370	B-2
C371	B-2
C372	B-2
C376	B-7
C377	A-5
C378	B-4
CN301	B-4
CN302	C-4
CN303	A-4
D303	C-5
D304	A-4
D305	C-2
IC301	B-2
IC303	A-5
J301	C-6
R301	C-2
R302	B-3
R303	C-3
R304	B-3
R312	C-1
R314	B-1
R318	C-7
R319	B-1
R323	B-3
R328	B-8
R330	C-8
R331	B-7
R332	B-7
R333	B-7
R334	B-7
R335	B-7
R336	B-8
R337	B-8
R338	B-8
R340	C-7
R342	C-7
R343	C-2
R344	B-2
R345	B-8
R346	B-8
R348	B-8
R349	B-8
R350	C-2
R351	C-2
R354	B-2
R355	B-2
R356	C-8
R357	B-7
R358	B-7
R362	B-7
R363	B-7
R364	A-4
R365	A-4
R370	B-5
R371	C-8
R373	A-4

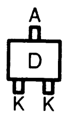
MA-268 BOARD (CONDUCTOR SIDE)


C
B
A
09
1
2
3
4
IC301
48
33
49
32
64
17
1
16
R350
D305
C356
R301
C305
C309
C323
C336
C338
C343
C355
C359
C360
C303
R343
R351
C368
R312
R309
R305
C315
C316
R314
C314
R319
C312
C326
C348
C344
C329
C349
C345
C347
R344
C364
C363
R355
C372
C369
R354
C370
C371
R359
R303
R302
R304
R372
C302
C304
C301
R323
CN302
CN301
C378
R365
CN303
C373
R364
D304
C374
R373
1
2
13

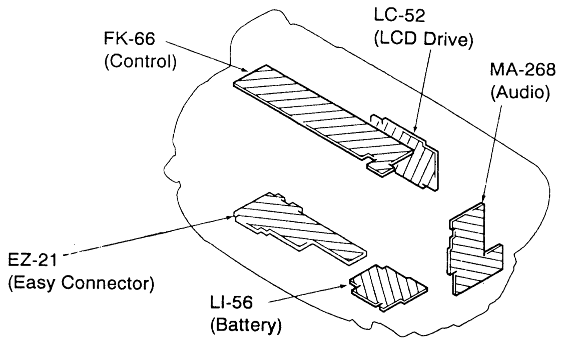
MA-268 BOARD (COMPONENT SIDE)


MIC
(PLUG IN POWER)
J301
D303
C307
C308
R316
C319
Q301
R315
R306
R307
R317
C320
R327
C333
C334
C321
R324
R339
R325
R326
C332
Q302
IC302
C331
R370
C353
C352
C377
IC303
D302
R318
C356
C354
R342
R330
C341
R329
R356
R371
C306
C340
C335
D301
R360
R341
R340
R333
C357
R363
R334
R357
R332
C337
C342
R328
R331
R348
C367
C362
R362
C376
R361
C339
R337
C361
R349
R347
R358
C366
R335
C350
C330
R338
C365
C346
C351
R346
R336
R345
1-660-351-
12
5
6
7
8
1
4
5
8

- **For printed wiring boards.**
- This board is a four-layer print board. However, the patterns of layers 2 and 3 have not been included in the diagram.
- Chip diode



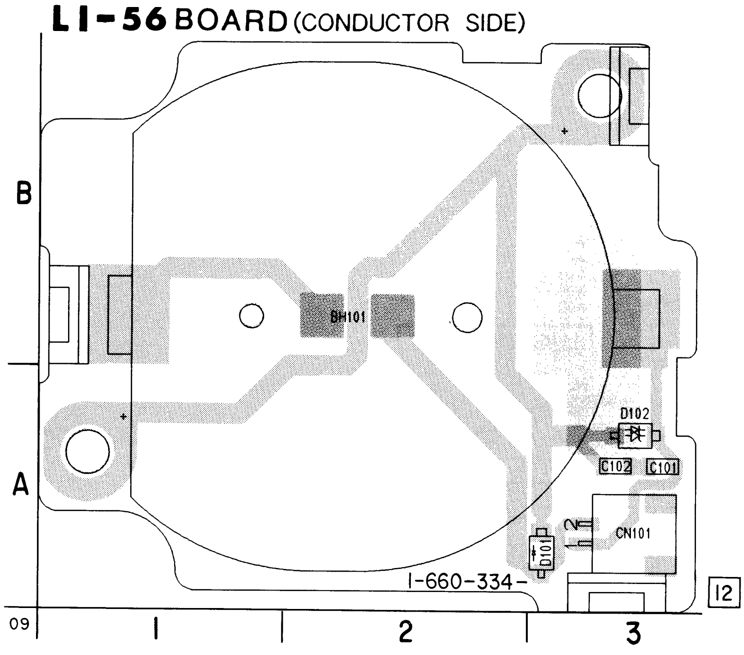
There are few cases that the part isn't mounted in this model is printed on this diagram.


FK-66
(Control)
LC-52
(LCD Drive)
MA-268
(Audio)
EZ-21
(Easy Connector)
LI-56
(Battery)

LI-56 (BATTERY) PRINTED WIRING BOARD

— Ref No. LI-56 BOARD: 3,000 series —

There are few cases that the part isn't mounted in this model is printed on this diagram.

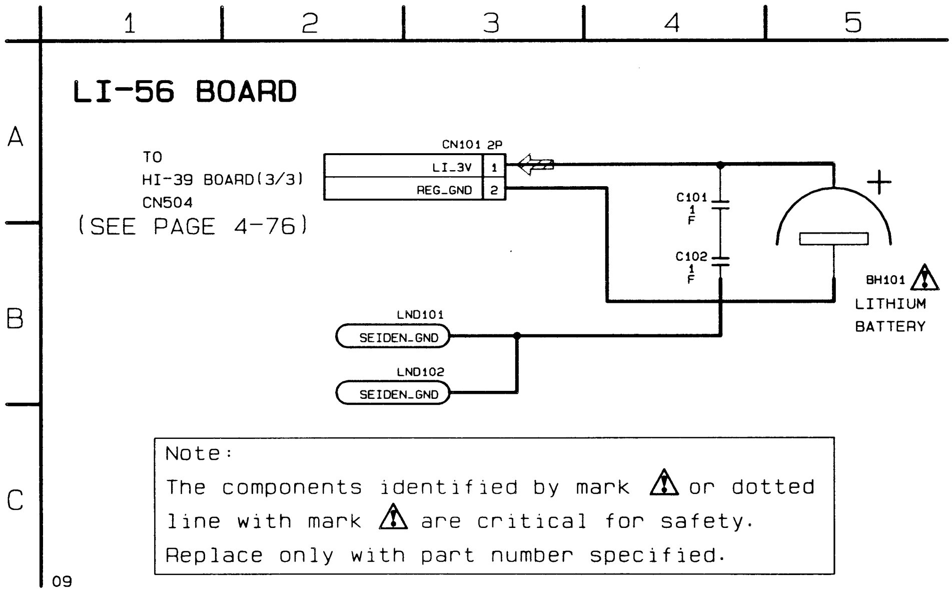

LI-56 BOARD (CONDUCTOR SIDE)
B
A
BH101
D102
C102
C101
CN101
D101
1-660-334-
12
09
1
2
3
+
+

LI-56 BOARD	
BH101	B-2
C101	A-3
C102	A-3
CN101	A-3

- ▨ : pattern from the side which enables seeing.
- ▨ : pattern of the rear side.

LI-56 (BATTERY) SCHEMATIC DIAGRAM

— Ref No. LI-56 BOARD: 3,000 series —


1
2
3
4
5
A
B
C
LI-56 BOARD
TO
HI-39 BOARD(3/3)
CN504
(SEE PAGE 4-76)
CN101 2P
LI_3V
REG_GND
1
2
C101
1
F
C102
1
F
+
BH101
LITHIUM
BATTERY
LND101
SEIDEN_GND
LND102
SEIDEN_GND
09

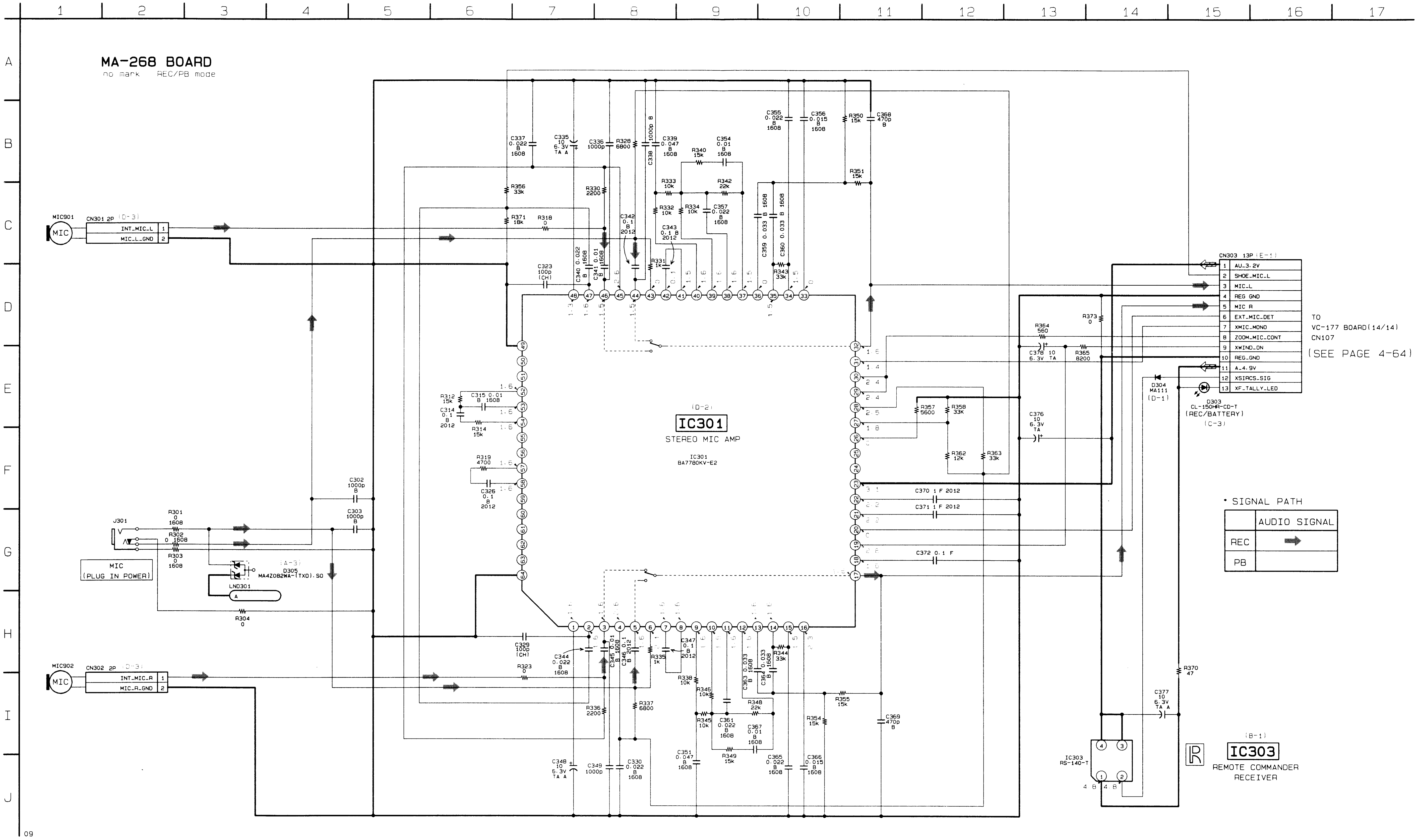
Note:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.

Replace only with part number specified.

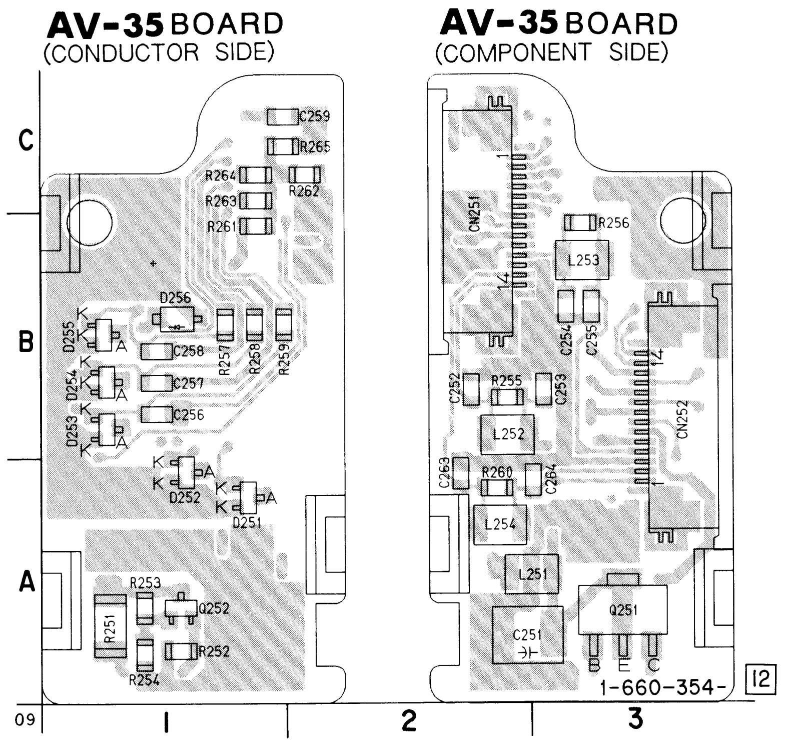
MA-268 (AUDIO) SCHEMATIC DIAGRAM

— Ref No. MA-268 BOARD: 4,000 series —


MA-268 BOARD
no mark REC/PB mode
MIC901
CN301 2P (D-3)
INT_MIC_L
MIC_L_GND
MIC902
CN302 2P (D-3)
INT_MIC_R
MIC_R_GND
J301
MIC (PLUG IN POWER)
D305 MA4Z082WA-(TX0).SO
LN0301
IC301
STEREO MIC AMP
IC301 BA7780KV-E2
CN303 13P (E-1)
1 AU_3.2V
2 SHOE_MIC_L
3 MIC_L
4 REG GND
5 MIC R
6 EXT_MIC_DET
7 XMIC_MONO
8 ZOOM_MIC_CONT
9 XWIND_ON
10 REG_GND
11 A_4.9V
12 XSIRCS_SIG
13 XF_TALLY_LED
TO VC-177 BOARD(14/14) CN107
(SEE PAGE 4-64)
D304 MA111 (D-1)
D303 CL-150HR-CD-T (REC/BATTERY) (C-3)
IC303 RS-140-T
IC303
REMOTE COMMANDER RECEIVER
• SIGNAL PATH
AUDIO SIGNAL
REC
PB

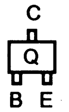
AV-35 (IN/OUT) PRINTED WIRING BOARD FP-378 (JACK) FLEXIBLE BOARD

— Ref No. AV-35 BOARD: 3,000 series —

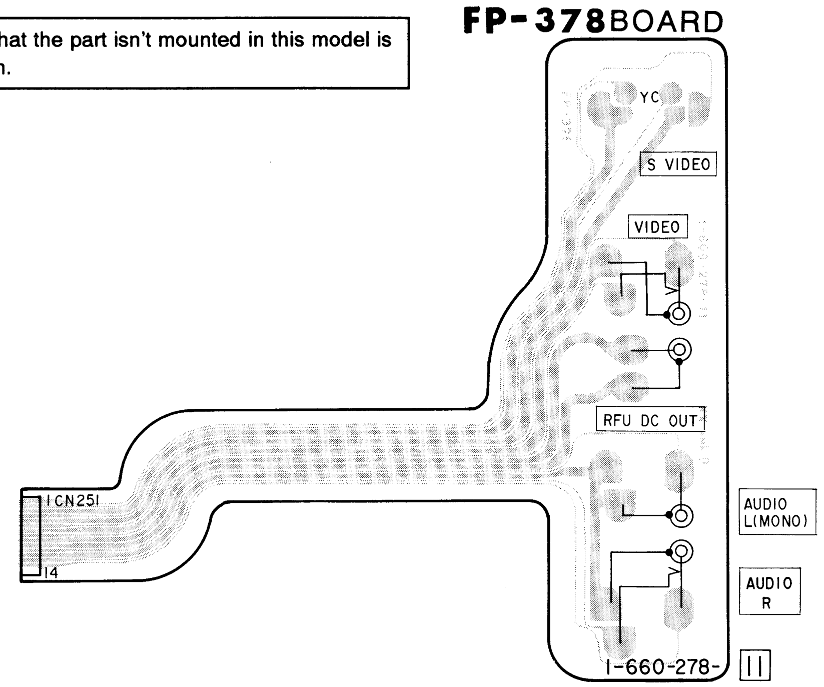

AV-35 BOARD
(CONDUCTOR SIDE)
AV-35 BOARD
(COMPONENT SIDE)
C
B
A
09
1
2
3
C259
R265
R264
R262
R263
R261
D256
D255
D254
D253
C258
C257
C256
R257
R258
R259
D252
D251
R253
Q252
R251
R252
R254
CN251
R256
L253
C254
C255
C252
R255
C253
L252
CN252
C263
R260
C264
L254
L251
C251
Q251
B E C
1-660-354-
12

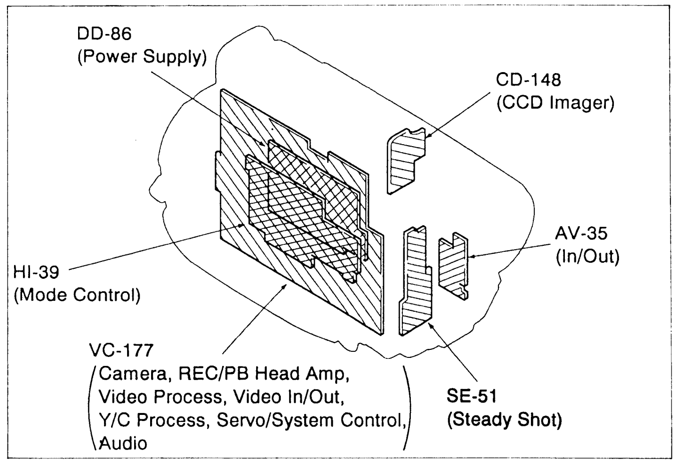
AV-35	BOARD
C251	A-2
C252	B-2
C253	B-3
C254	B-3
C255	B-3
C259	C-2
C263	A-2
C264	A-3
CN251	B-2
CN252	B-3
D251	A-1
D252	A-1
D253	B-1
D254	B-1
D255	B-1
D256	B-1
L251	A-3
L252	B-2
L253	B-3
L254	A-2
Q251	A-3
Q252	A-1
R251	A-1
R252	A-1
R253	A-1
R254	A-1
R255	B-2
R256	B-3
R257	B-1
R258	B-1
R259	B-2
R260	A-2
R261	B-1
R262	C-2
R263	C-1
R264	C-1

- **For printed wiring boards.**
- This board is a four-layer print board. However, the patterns of layers 2 and 3 have not been included in the diagram.
- Chip transistor



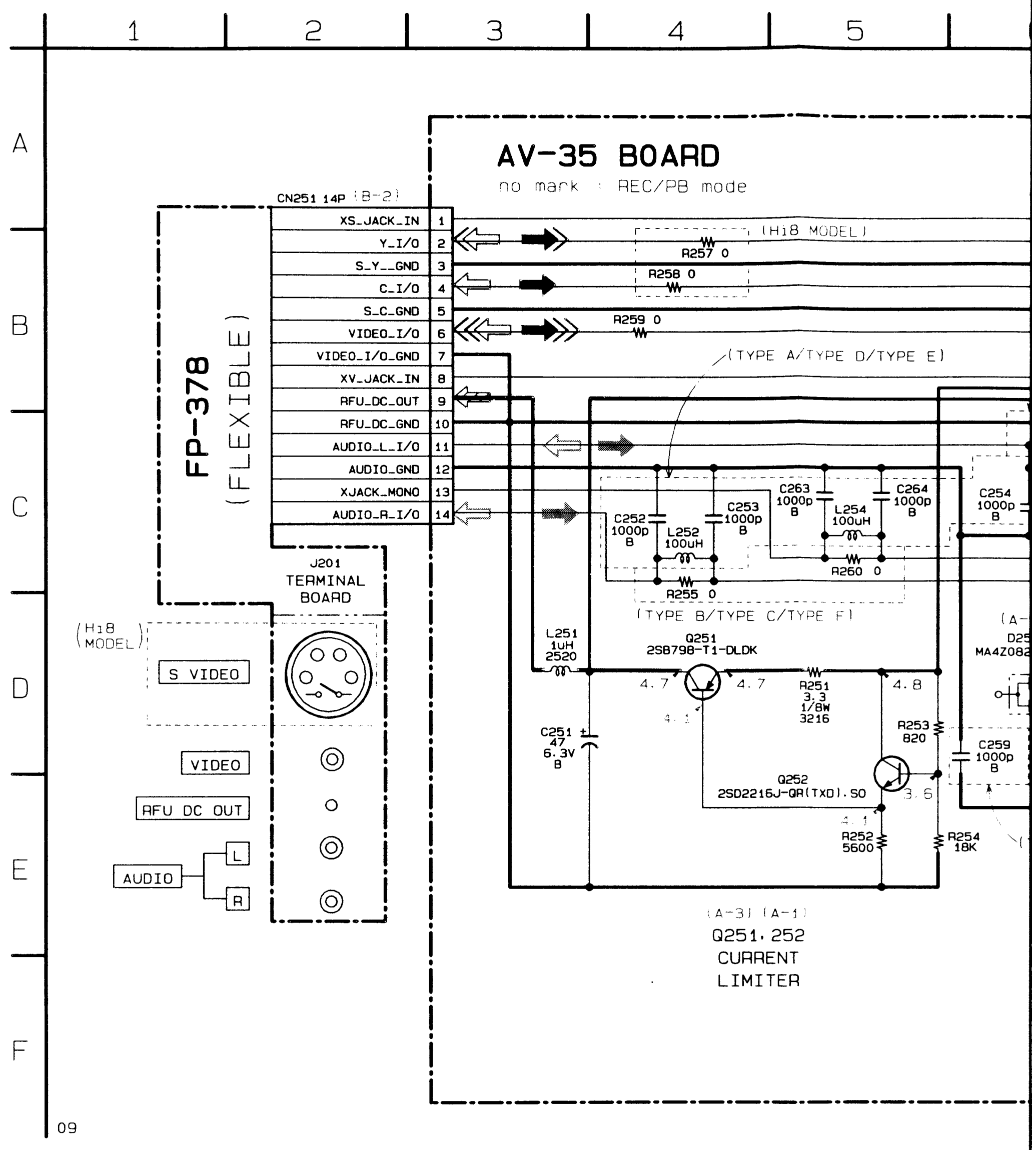
There are few cases that the part isn't mounted in this model is printed on this diagram.


FP-378 BOARD
YC
S VIDEO
VIDEO
RFU DC OUT
AUDIO L(MONO)
AUDIO R
CN251
14
1-660-278-
11

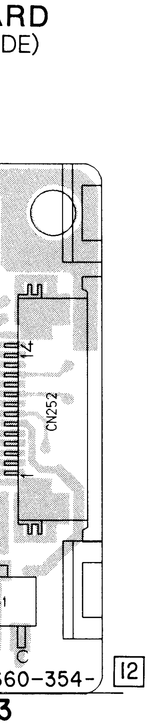

DD-86
(Power Supply)
CD-148
(CCD Imager)
AV-35
(In/Out)
HI-39
(Mode Control)
VC-177
Camera, REC/PB Head Amp, Video Process, Video In/Out, Y/C Process, Servo/System Control, Audio
SE-51
(Steady Shot)

AV-35 (IN/OUT), FP-378 (JACK) SCHEMATIC DIAGRAMS

— Ref No. AV-35 BOARD: 3,000 series —

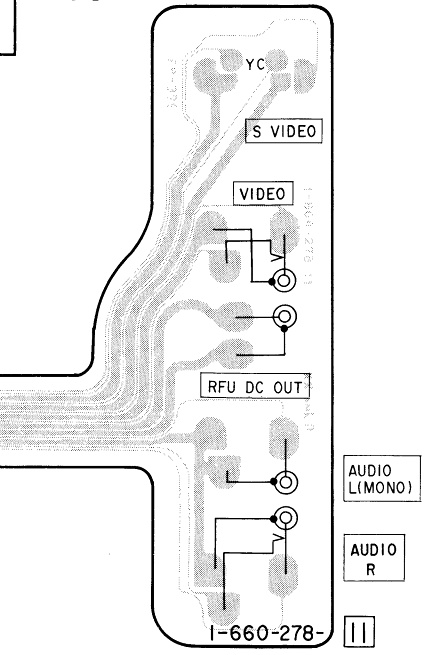

1
2
3
4
5
A
B
C
D
E
F
09
AV-35 BOARD
no mark : REC/PB mode
CN251 14P (B-2)
XS_JACK_IN 1
Y_I/O 2
S_Y_GND 3
C_I/O 4
S_C_GND 5
VIDEO_I/O 6
VIDEO_I/O_GND 7
XV_JACK_IN 8
RFU_DC_OUT 9
RFU_DC_GND 10
AUDIO_L_I/O 11
AUDIO_GND 12
XJACK_MONO 13
AUDIO_R_I/O 14
FP-378
(FLEXIBLE)
(H18 MODEL)
R257 0
R258 0
R259 0
(TYPE A/TYPE D/TYPE E)
C252 1000p B
L252 100uH
C253 1000p B
C263 1000p B
L254 100uH
C264 1000p B
C254 1000p
R255 0
R260 0
(TYPE B/TYPE C/TYPE F)
J201
TERMINAL
BOARD
(H18 MODEL)
S VIDEO
VIDEO
RFU DC OUT
AUDIO
L
R
L251 1uH 2520
Q251 2SB798-T1-DLDK
4.7
4.7
R251 3.3 1/8W 3216
4.8
C251 47 6.3V B
R253 820
C259 1000p B
Q252 2SD2216J-QR(TX0).SO
3.5
R252 5600
R254 18K
MA4Z082
(A-3) (A-1)
Q251, 252
CURRENT
LIMITER

CK) FLEXIBLE BOARD


RD
DE)
CN252
60-354-
12
3

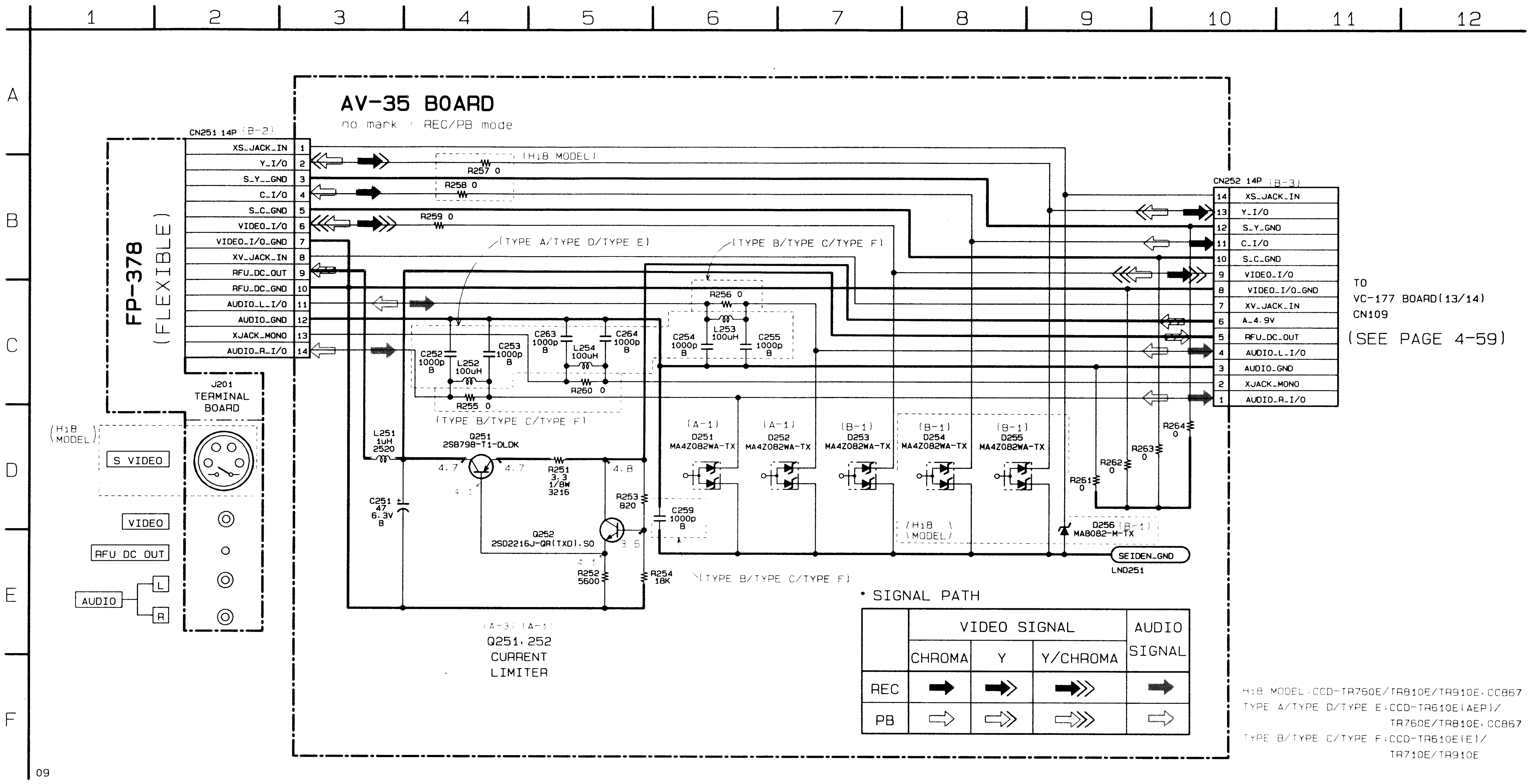
AV-35 BOARD	
C251	A-2
C252	B-2
C253	B-3
C254	B-3
C255	B-3
C259	C-2
C263	A-2
C264	A-3
CN251	B-2
CN252	B-3
D251	A-1
D252	A-1
D253	B-1
D254	B-1
D255	B-1
D256	B-1
L251	A-3
L252	B-2
L253	B-3
L254	A-2
Q251	A-3
Q252	A-1
R251	A-1
R252	A-1
R253	A-1
R254	A-1
R255	B-2
R256	B-3
R257	B-1
R258	B-1
R259	B-2
R260	A-2
R261	B-1
R262	C-2
R263	C-1
R264	C-1

FP-378BOARD


YC
S VIDEO
VIDEO
RFU DC OUT
AUDIO L(MONO)
AUDIO R
1-660-278-
11

AV-35 (IN/OUT), FP-378 (JACK) SCHEMATIC DIAGRAMS

— Ref No. AV-35 BOARD: 3,000 series —


1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
AV-35 BOARD
no mark : REC/PB mode
FP-378 (FLEXIBLE)
CN251 14P (B-2)
XS_JACK_IN
Y_I/O
S_Y_GND
C_I/O
S_C_GND
VIDEO_I/O
VIDEO_I/O_GND
XV_JACK_IN
RFU_DC_OUT
RFU_DC_GND
AUDIO_L_I/O
AUDIO_GND
XJACK_MONO
AUDIO_R_I/O
J201 TERMINAL BOARD
(Hi8 MODEL)
S VIDEO
VIDEO
RFU DC OUT
AUDIO
L
R
(Hi8 MODEL)
R257 0
R258 0
R259 0
(TYPE A/TYPE D/TYPE E)
(TYPE B/TYPE C/TYPE F)
R256 0
C263 1000p B
C264 1000p B
C252 1000p B
L252 100uH
C253 1000p B
L254 100uH
R260 0
C254 1000p B
L253 100uH
C255 1000p B
R255 0
(TYPE B/TYPE C/TYPE F)
L251 1uH 2520
Q251 2SB798-T1-DLDK
4.7
4.7
R251 3.3 1/8W 3216
4.8
C251 47 6.3V B
R253 820
C259 1000p B
Q252 2SD2216J-QR(TX0).SO
R252 5600
R254 18K
(TYPE B/TYPE C/TYPE F)
(A-3) (A-1)
Q251, 252 CURRENT LIMITER
(A-1) D251 MA4Z082WA-TX
(A-1) D252 MA4Z082WA-TX
(B-1) D253 MA4Z082WA-TX
(B-1) D254 MA4Z082WA-TX
(B-1) D255 MA4Z082WA-TX
(Hi8 MODEL)
R261 0
R262 0
R263 0
R264 0
D256 (B-1) MA8082-M-TX
SEIDEN_GND
LND251
CN252 14P (B-3)
XS_JACK_IN
Y_I/O
S_Y_GND
C_I/O
S_C_GND
VIDEO_I/O
VIDEO_I/O_GND
XV_JACK_IN
A_4.9V
RFU_DC_OUT
AUDIO_L_I/O
AUDIO_GND
XJACK_MONO
AUDIO_R_I/O
TO VC-177 BOARD(13/14) CN109
(SEE PAGE 4-59)
• SIGNAL PATH
VIDEO SIGNAL
AUDIO SIGNAL
CHROMA
Y
Y/CHROMA
REC
PB
09

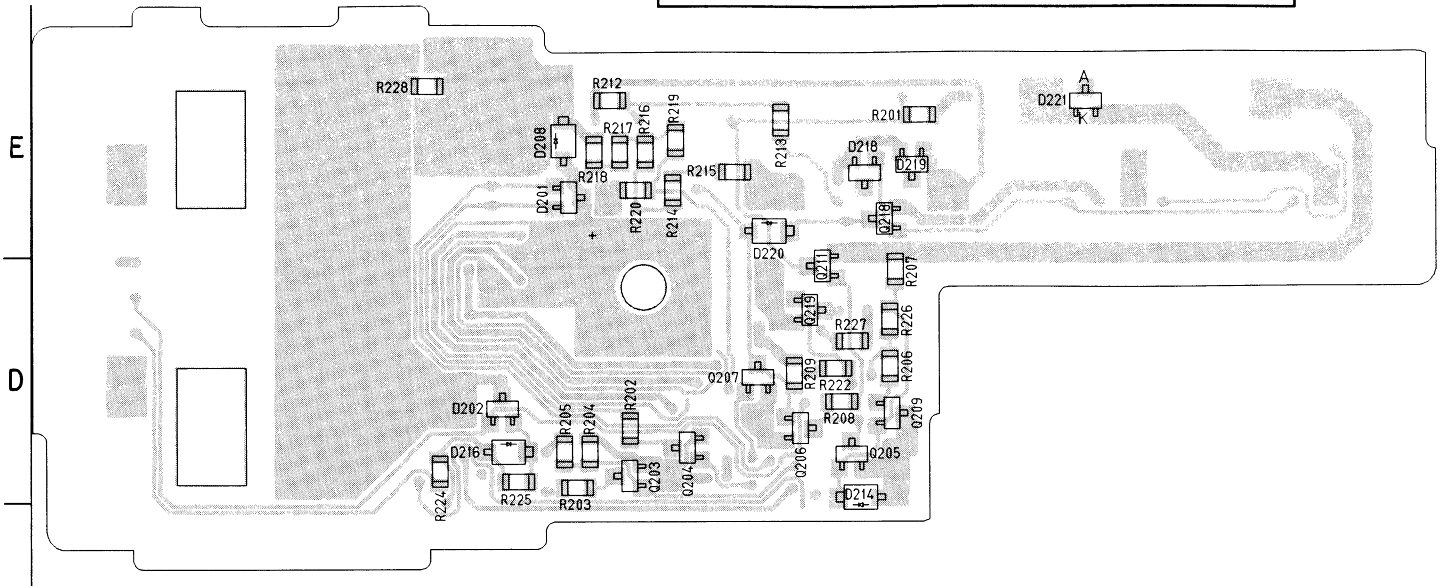
Hi8 MODEL : CCD-TR760E/TR810E/TR910E, CC867
TYPE A/TYPE D/TYPE E : CCD-TR610E(AEP)/
TR760E/TR810E, CC867
TYPE B/TYPE C/TYPE F : CCD-TR610E(E)/
TR710E/TR910E

EZ-21 (EASY CONNECTOR) PRINTED WIRING BOARD (EASY CONNECTOR MODEL ONLY)

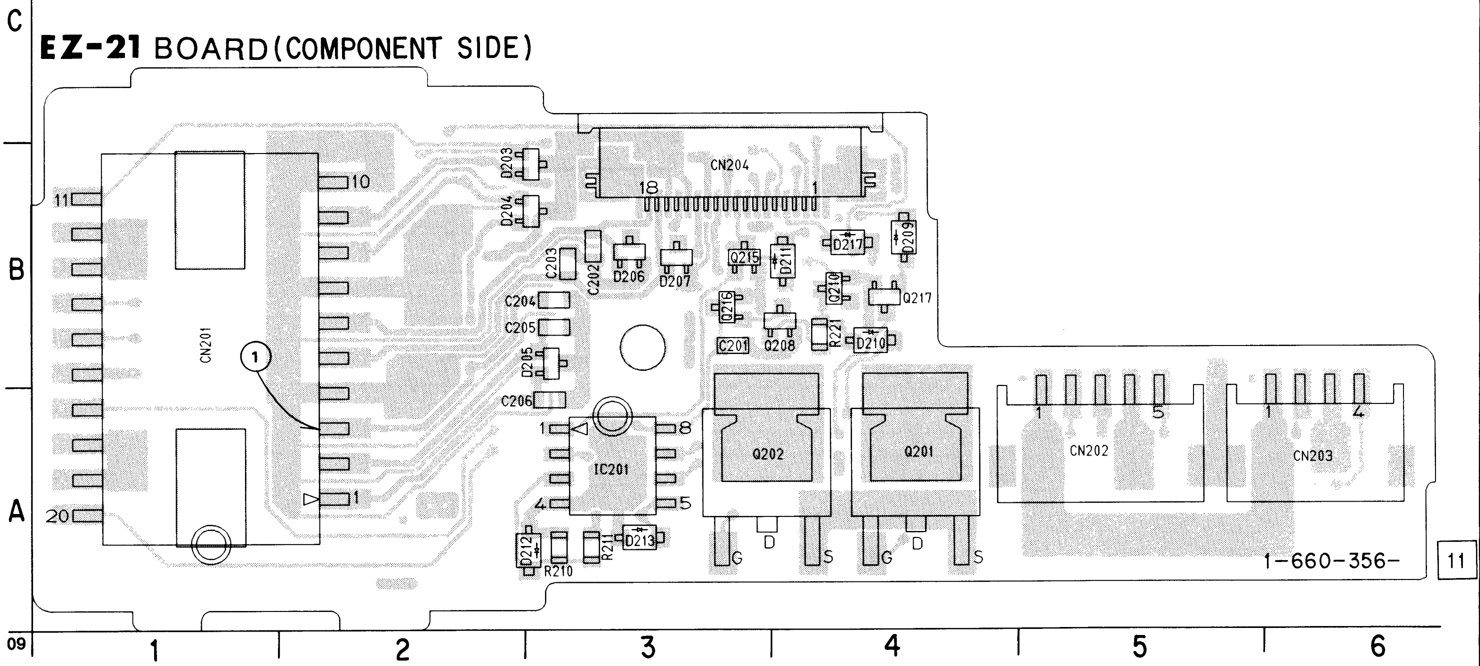
— Ref No. EZ-21 BOARD: 6,000 series —

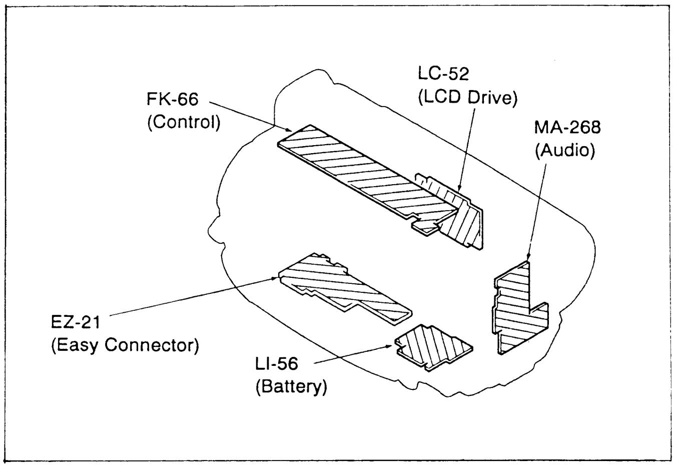
There are few cases that the part isn't mounted in this model is printed on this diagram.

EZ-21 BOARD (CONDUCTOR SIDE)

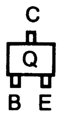

E
D
R228
R212
R217
R216
R219
D208
R218
D201
R220
R214
R215
R213
R201
A
D221
K
D218
Q219
Q218
D220
Q211
R207
Q219
R227
R226
Q207
R209
R222
R206
R208
Q209
D202
R205
R204
R202
D216
Q206
Q205
R224
R225
R203
Q203
Q204
D214

EZ-21 BOARD (COMPONENT SIDE)

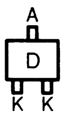

C
B
A
CN204
18
1
D203
D204
C203
C202
D206
D207
Q215
D211
D217
D209
Q210
Q217
Q216
C201
Q208
R221
D210
C204
C205
D205
C206
CN201
11
10
20
1
①
1
8
4
5
IC201
Q202
Q201
G
D
S
G
D
S
CN202
1
5
CN203
1
4
D212
R210
R211
D213
1-660-356-
11
09
1
2
3
4
5
6


FK-66
(Control)
LC-52
(LCD Drive)
MA-268
(Audio)
EZ-21
(Easy Connector)
LI-56
(Battery)

- **For printed wiring boards.**
- This board is a four-layer print board. However, the patterns of layers 2 and 3 have not been included in the diagram.
- Chip transistor



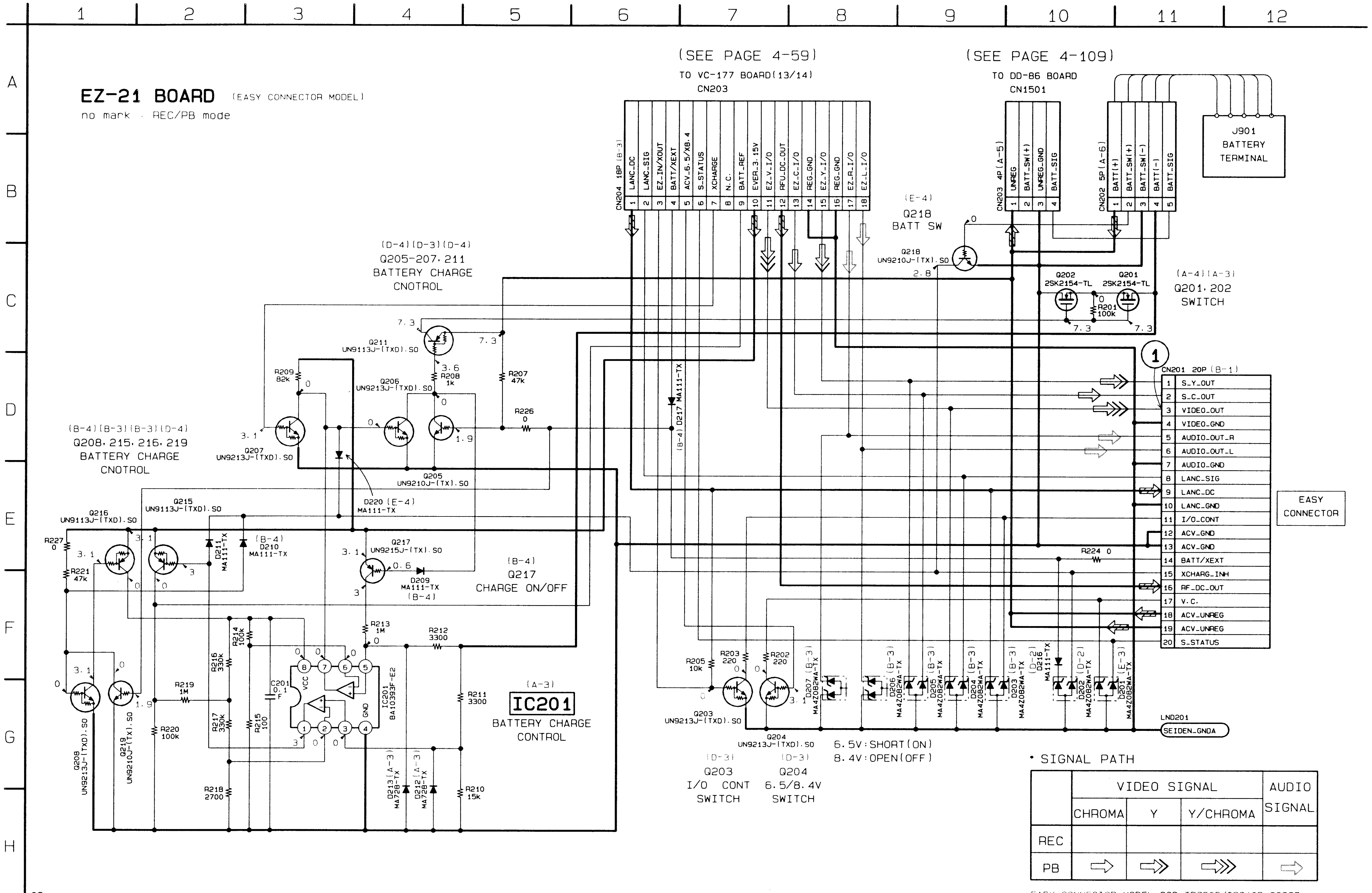
- Chip diode



EZ-21 (EASY CONNECTOR) SCHEMATIC DIAGRAM (EASY CONNECTOR MODEL ONLY)

— Ref No. EZ-21 BOARD: 6,000 series —

EZ-21 BOARD	
C201	B-3
CN201	B-1
CN202	A-5
CN203	A-6
CN204	B-3
D201	E-3
D202	D-2
D203	B-3
D204	B-3
D205	B-3
D206	B-3
D207	B-3
D209	B-4
D212	A-3
D213	A-3
D216	D-2
D217	B-4
D220	E-4
IC201	A-3
Q201	A-4
Q202	A-3
Q203	D-3
Q204	D-3
Q205	D-4
Q206	D-4
Q207	D-3
Q208	B-4
Q211	D-4
Q215	B-3
Q216	B-3
Q217	B-4
Q218	E-4
Q219	D-4
R201	E-4
R202	D-3
R203	D-3
R205	D-3
R207	D-4
R208	D-4
R209	D-4
R210	A-3
R211	A-3
R212	E-3
R213	E-4
R214	E-3
R215	E-3
R216	E-3
R217	E-3
R218	E-3
R219	E-3
R220	E-3
R221	B-4
R224	D-2
R226	D-4
R227	D-4

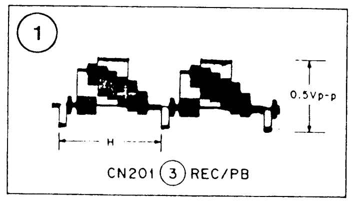

1 2 3 4 5 6 7 8 9 10 11 12
A B C D E F G H
EZ-21 BOARD (EASY CONNECTOR MODEL)
no mark : REC/PB mode
(SEE PAGE 4-59)
TO VC-177 BOARD(13/14)
CN203
CN204 18P (B-3)
1 LANC_DC
2 LANC_SIG
3 EZ_IN/XOUT
4 BATT/XEXT
5 ACV_6.5/X8.4
6 S_STATUS
7 XCHARGE
8 N.C.
9 BATT_REF
10 EVER_3.15V
11 EZ_V_I/O
12 RFU_DC_OUT
13 EZ_C_I/O
14 REG_GND
15 EZ_Y_I/O
16 REG_GND
17 EZ_R_I/O
18 EZ_L_I/O
(SEE PAGE 4-109)
TO DD-86 BOARD
CN1501
CN203 4P (A-5)
1 UNREG
2 BATT_SW(+)
3 UNREG_GND
4 BATT_SIG
CN202 5P (A-6)
1 BATT(+)
2 BATT_SW(+)
3 BATT_SW(-)
4 BATT(-)
5 BATT_SIG
J901 BATTERY TERMINAL
(E-4) Q218 BATT SW
Q218 UN9210J-(TX).SO
Q202 2SK2154-TL
Q201 2SK2154-TL
R201 100k
(A-4)(A-3) Q201, 202 SWITCH
(D-4)(D-3)(D-4) Q205-207, 211 BATTERY CHARGE CNOTROL
Q211 UN9113J-(TXD).SO
R209 82k
R208 1k
R207 47k
R226 0
Q206 UN9213J-(TXD).SO
(B-4)(B-3)(B-3)(D-4) Q208, 215, 216, 219 BATTERY CHARGE CNOTROL
Q207 UN9213J-(TXD).SO
Q205 UN9210J-(TX).SO
D220 (E-4) MA111-TX
D217 MA111-TX
Q216 UN9113J-(TXD).SO
Q215 UN9113J-(TXD).SO
R227 0
R221 47k
D211 MA111-TX
(B-4) D210 MA111-TX
Q217 UN9215J-(TX).SO
D209 MA111-TX (B-4)
(B-4) Q217 CHARGE ON/OFF
R213 1M
R212 3300
R214 100k
R216 330k
R219 1M
C201 0.1 F
R217 330k
R215 100
R220 100k
R218 2700
IC201 BA10393F-E2
R211 3300
R210 15k
D213 (A-3) MA728-TX
D212 (A-3) MA728-TX
(A-3) IC201 BATTERY CHARGE CONTROL
Q208 UN9213J-(TXD).SO
Q219 UN9210J-(TX).SO
R205 10k
R203 220
R202 220
Q203 UN9213J-(TXD).SO
Q204 UN9213J-(TXD).SO
6.5V:SHORT(ON)
8.4V:OPEN(OFF)
(D-3) Q203 I/O CONT SWITCH
(D-3) Q204 6.5/8.4V SWITCH
D207 MA4Z082WA-TX
D206 MA4Z082WA-TX
D205 MA4Z082WA-TX
D204 MA4Z082WA-TX
D203 MA4Z082WA-TX
D216 MA111-TX
D202 MA4Z082WA-TX
D201 MA4Z082WA-TX
LND201 SEIDEN_GNDA
R224 0
CN201 20P (B-1)
1 S_Y_OUT
2 S_C_OUT
3 VIDEO_OUT
4 VIDEO_GND
5 AUDIO_OUT_R
6 AUDIO_OUT_L
7 AUDIO_GND
8 LANC_SIG
9 LANC_DC
10 LANC_GND
11 I/O_CONT
12 ACV_GND
13 ACV_GND
14 BATT/XEXT
15 XCHARG_INH
16 RF_DC_OUT
17 V.C.
18 ACV_UNREG
19 ACV_UNREG
20 S_STATUS
EASY CONNECTOR
09

• SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				
PB	⇨	⇨⇨	⇨⇨⇨	⇨

EASY CONNECTOR MODEL: CCD-TR760E/TR810E, CC867

EZ-21 BOARD



VF-95 (COLOR EVF), VF-96 (COLOR EVF), LB-45 (BACK LIGHT), FP-394 (SENSOR) PRINTED WIRING BOARDS (COLOR EVF MODEL ONLY)

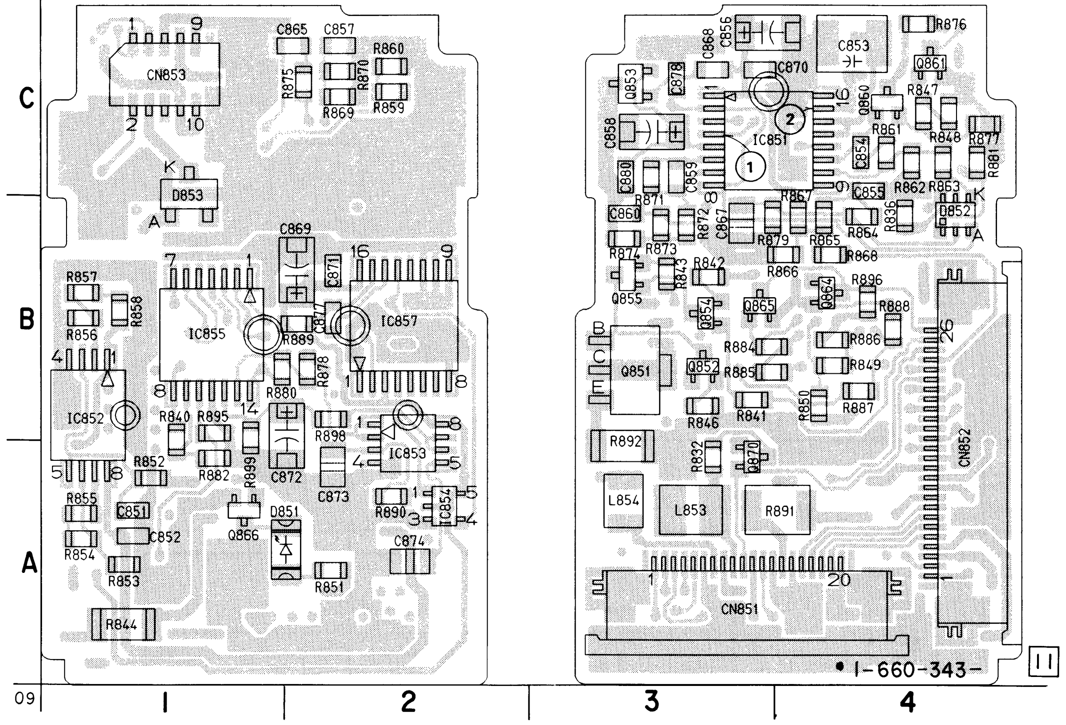
— Ref No. VF-95, VF-96 and LB-45 BOARDS: 5,000 series —

VF-95 BOARD

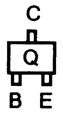
C851	A-1
C852	A-1
C853	C-4
C854	C-4
C855	C-4
C856	C-3
C857	C-2
C858	C-3
C859	C-3
C860	B-3
C865	C-2
C867	B-3
C868	C-3
C869	B-2
C870	C-3
C871	B-2
C872	B-2
C873	A-2
C874	A-2
C877	B-2
C878	C-3
C880	C-3
CN851	A-3
CN852	A-4
CN853	C-1
D851	A-2
D852	B-4
D853	C-1
IC851	C-3
IC852	B-1
IC853	B-2
IC854	A-2
IC855	B-1
IC857	B-2
L853	A-3
L854	A-3
Q851	B-3
Q852	B-3
Q853	C-3
Q854	B-3
Q855	B-3
Q864	B-4
Q865	B-3
Q866	A-1
Q870	A-3
R832	A-3
R836	B-4
R840	B-1
R841	B-3
R842	B-3
R843	B-3
R844	A-1
R846	B-3
R849	B-4
R850	B-4
R851	A-2
R852	A-1
R853	A-1
R854	A-1
R855	A-1
R856	B-1
R857	B-1
R858	B-1
R859	C-2
R860	C-2
R861	C-4
R862	C-4
R863	C-4
R864	B-4
R865	B-4
R867	B-4
R868	B-4
R869	C-2
R870	C-2
R871	C-3
R872	B-3
R873	B-3
R874	B-3
R875	C-2
R878	B-2
R879	B-4
R880	B-2
R881	C-4
R882	A-1
R884	B-3
R885	B-3
R886	B-4
R887	B-4
R888	B-4
R889	B-2
R890	A-2
R891	A-4
R892	B-3
R895	B-1
R896	B-4
R898	B-2
R899	B-1

VF-95 BOARD (CONDUCTOR SIDE)

VF-95 BOARD (COMPONENT SIDE)


C
B
A
09
1
2
3
4
CN853
D853
IC855
IC852
IC857
IC853
IC851
IC870
Q851
L853
L854
R891
R892
CN851
CN852
• 1-660-343-
11

- **For printed wiring boards.**
- This board is a four-layer print board. However, the patterns of layers 2 and 3 have not been included in the diagram.
- Chip transistor

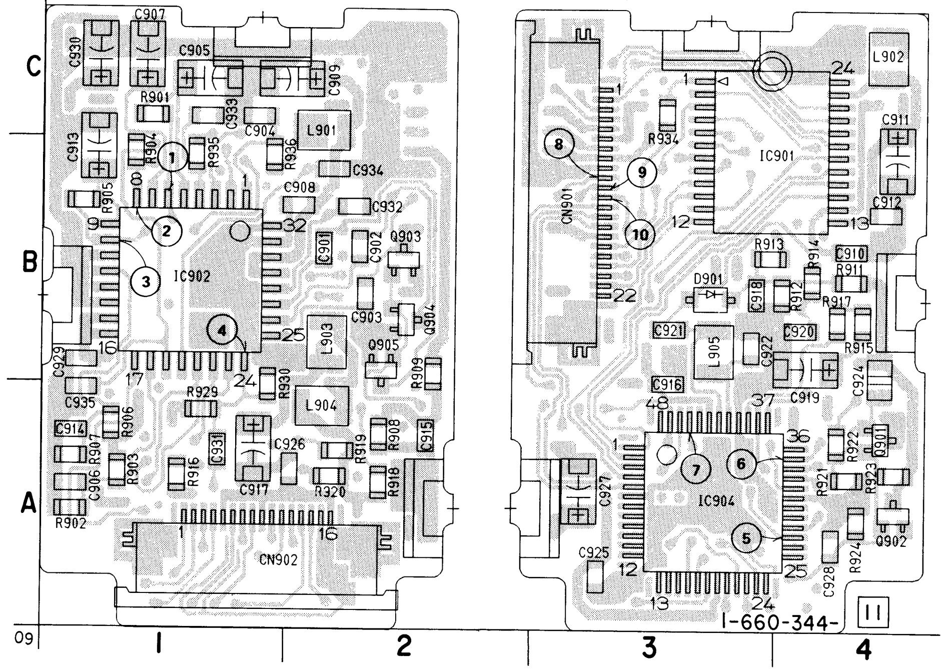


There are few cases that the part isn't mounted in this model is printed on this diagram.

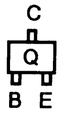
VF-96 BOARD

C901	B-2
C902	B-2
C903	B-2
C904	C-1
C905	C-1
C906	A-1
C907	C-1
C908	B-2
C909	C-2
C910	B-4
C911	B-4
C912	B-4
C913	B-1
C914	A-1
C916	B-3
C917	A-1
C918	B-3
C919	B-4
C920	B-4
C921	B-3
C922	B-3
C924	B-4
C925	A-3
C927	A-3
C929	B-1
C930	C-1
C931	A-1
C932	B-2
C933	C-1
C934	B-2
C935	A-1
CN901	B-3
CN902	A-1
D901	B-3
IC901	B-3
IC902	B-1
IC904	A-3
L901	C-2
L902	C-4
L903	B-2
L904	A-2
L905	B-3
Q901	A-4
Q902	A-4
R901	C-1
R902	A-1
R903	A-1
R904	B-1
R905	B-1
R906	A-1
R907	A-1
R908	A-2
R909	B-2
R911	B-4
R912	B-4
R913	B-3
R914	B-4
R915	B-4
R917	B-4
R921	A-4
R922	A-4
R923	A-4
R924	A-4
R929	A-1
R930	A-1
R934	C-3
R935	B-1
R936	B-1

VF-96 BOARD(CONDUCTOR SIDE) VF-96 BOARD(COMPONENT SIDE)


C
B
A
09
1
2
3
4
IC902
IC901
IC904
CN901
CN902
L901
L902
L903
L904
L905
1-660-344-
11

- **For printed wiring boards.**
- This board is a four-layer print board. However, the patterns of layers 2 and 3 have not been included in the diagram.
- Chip transistor



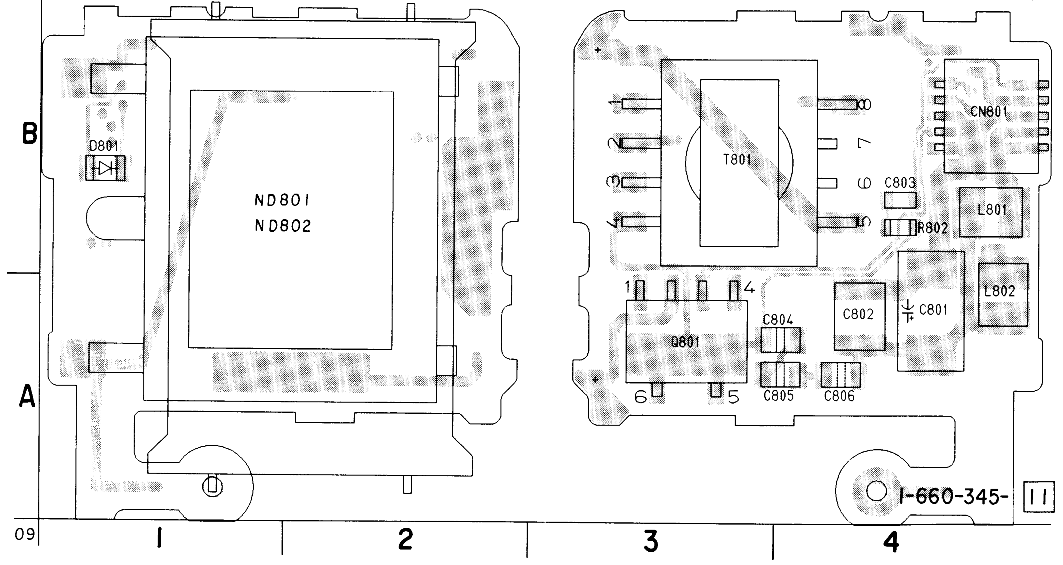
There are few cases that the part isn't mounted in this model is printed on this diagram.

LB-45 BOARD

C801	A-4
C802	A-4
C803	B-4
C804	A-3
C805	A-3
C806	A-4
CN801	B-4
L801	B-4
L802	A-4
ND801	B-1
Q801	A-3
R802	B-4
T801	B-3

LB-45 BOARD(CONDUCTOR SIDE)

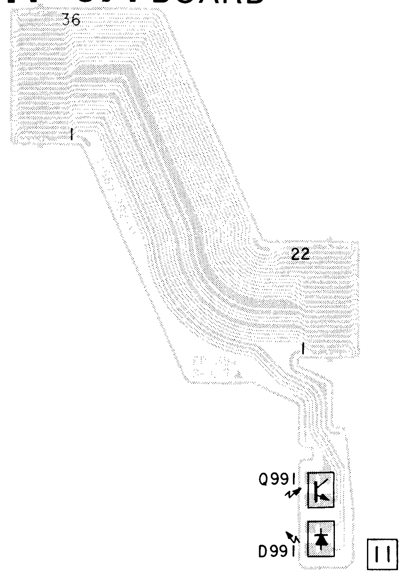
LB-45 BOARD (COMPONENT SIDE)

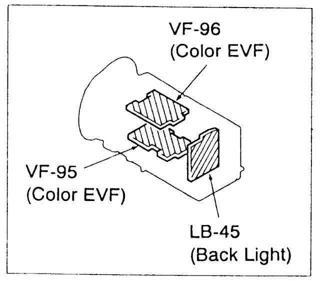

B
A
09
1
2
3
4
D801
ND801
ND802
T801
CN801
C803
R802
L801
L802
C804
C802
C801
Q801
C805
C806
1-660-345-
11

There are few cases that the part isn't mounted in this model is printed on this diagram.

- **For printed wiring boards.**
- This board is a four-layer print board. However, the patterns of layers 2 and 3 have not been included in the diagram.

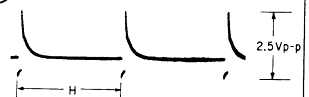
FP-394 BOARD


36
1
22
1
Q991
D991
11


VF-96
(Color EVF)
VF-95
(Color EVF)
LB-45
(Back Light)

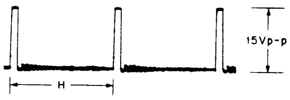
VF-95 BOARD

①



IC851 ④ REC/PB

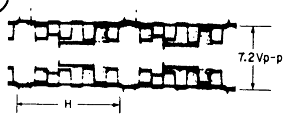
②



IC851 ⑮ REC/PB

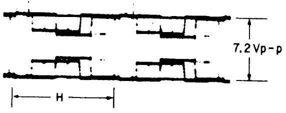
VF-96 BOARD

①



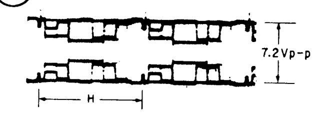
IC902 ⑥ REC/PB

②



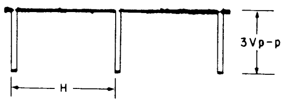
IC902 ⑧ REC/PB

③



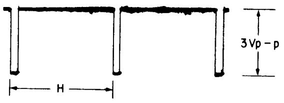
IC902 ⑩ REC/PB

④



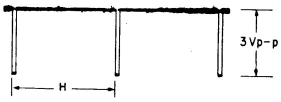
IC902 ㉔ REC/PB

⑤



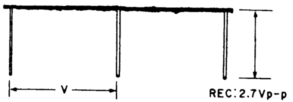
IC904 ㉗ REC/PB

⑥



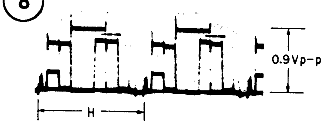
IC904 ㉟ REC/PB

⑦



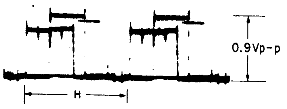
IC904 ㊺ REC/PB

⑧



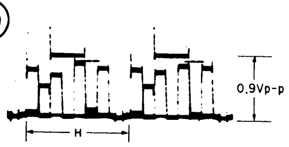
CN901 ⑩ REC/PB

⑨



CN901 ⑪ REC/PB

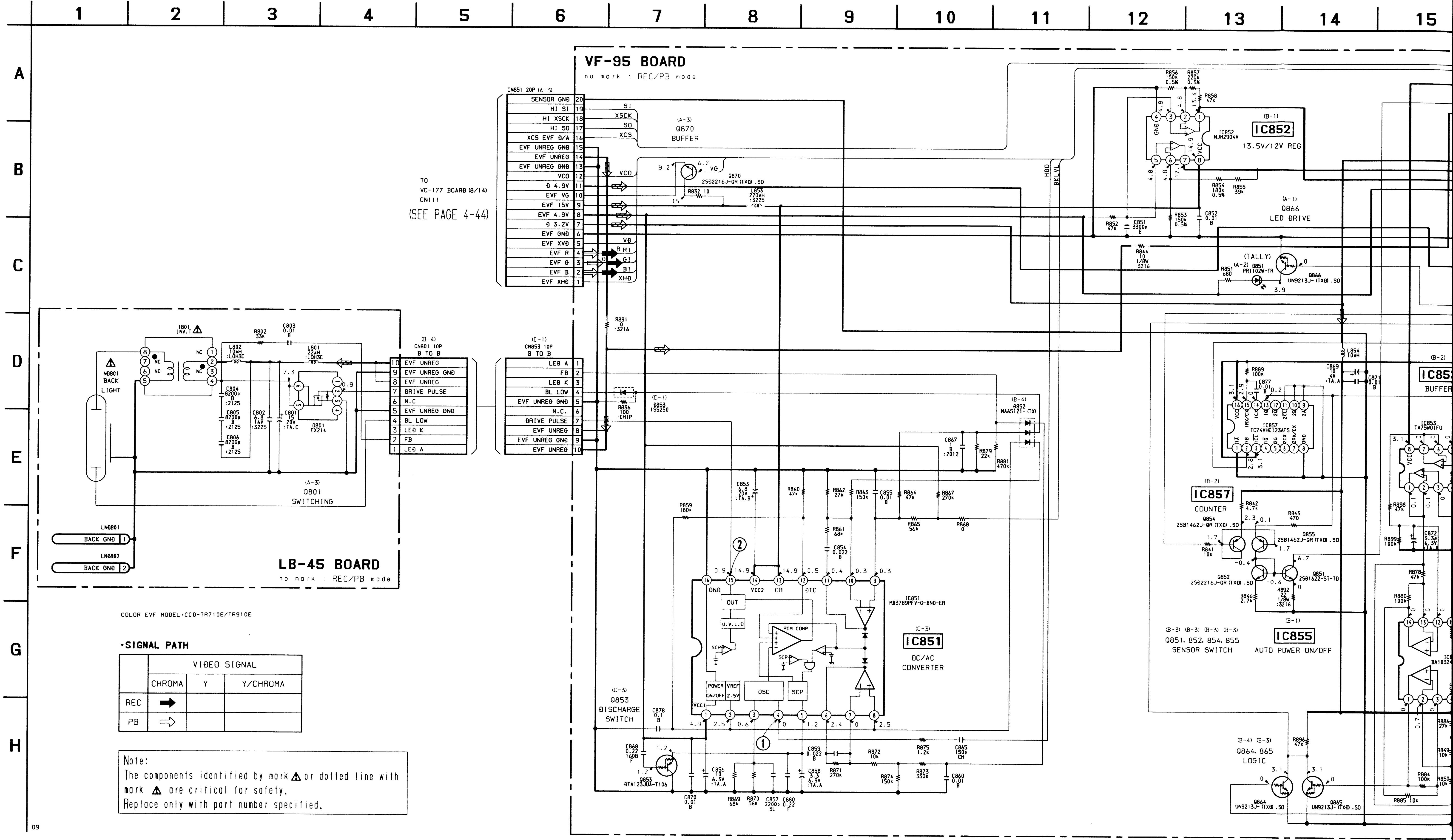
⑩



CN901 ⑫ REC/PB

VF-95 (COLOR EVF), VF-96 (COLOR EVF), LB-45 (BACK LIGHT), FP-394 (SENSOR) SCHEMATIC DIAGRAMS (COLOR EVF MODEL ONLY)

— Ref No. VF-95, VF-96 and LB-45 BOARDS: 5,000 series —

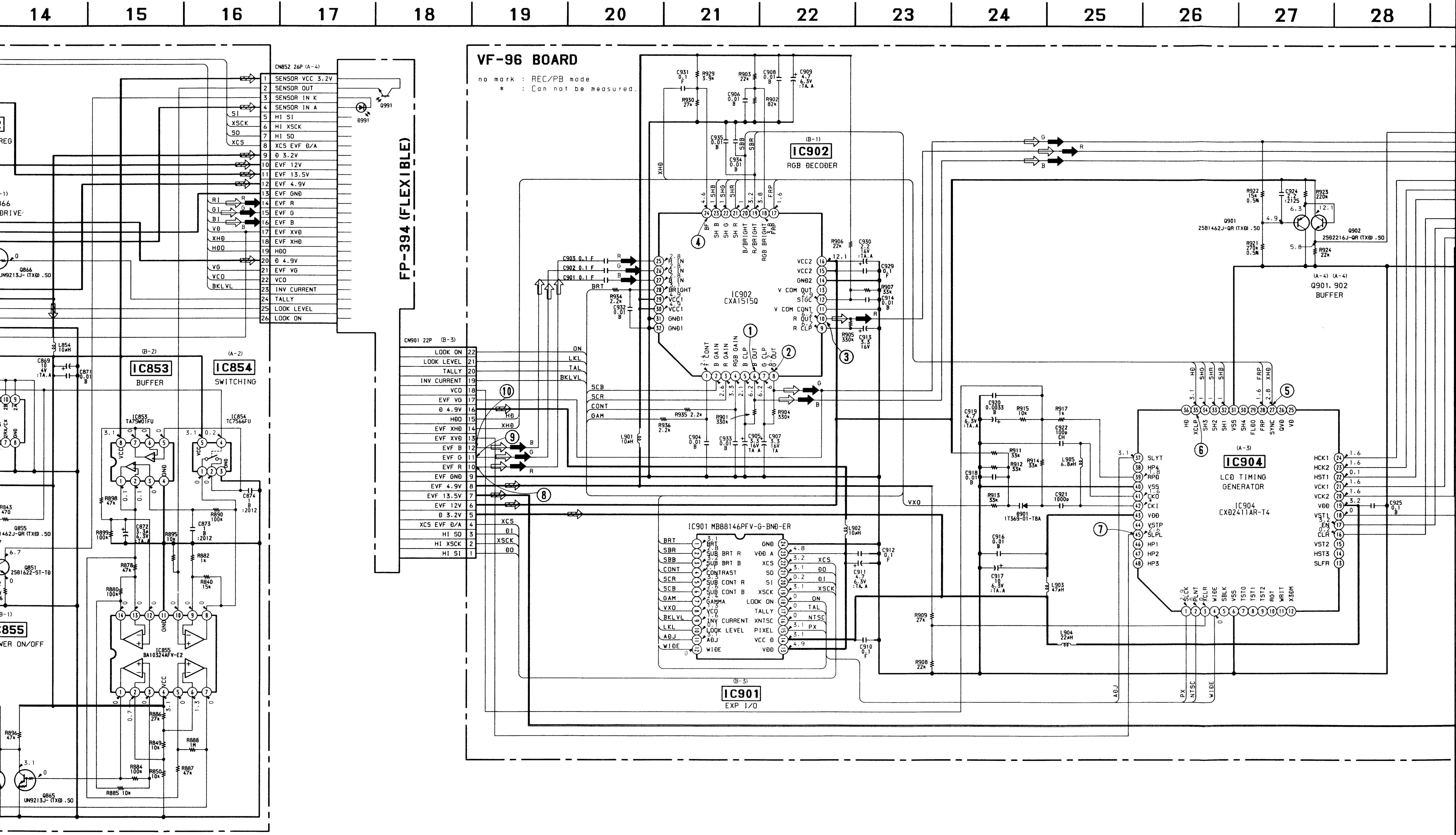

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
VF-95 BOARD
no mark : REC/PB mode
CN851 20P (A-3)
SENSOR GND
HI SI
HI XSCK
HI SO
XCS EVF D/A
EVF UNREG GND
EVF UNREG
VCO
D 4.9V
EVF VG
EVF 15V
EVF 4.9V
D 3.2V
EVF GND
EVF XVD
EVF R
EVF G
EVF B
EVF XHD
TO
VC-177 BOARD (8/14)
CN111
(SEE PAGE 4-44)
Q870
BUFFER
2SD2216J-QR (TX) .SO
IC852
NJM2904V
13.5V/12V REG
Q866
LED DRIVE
(TALLY)
D851
PR1102W-TR
UN9213J-(TX) .SO
HDO
BKLVL
CN853 10P
B TO B
LED A
FB
LED K
BL LOW
EVF UNREG GND
N.C.
DRIVE PULSE
EVF UNREG
CN801 10P
B TO B
N.C
BL LOW
LED K
T801
INV.T
L802
10µH
L801
22µH
Q801
FX214
SWITCHING
BACK
LIGHT
ND801
LND801
BACK GND
LND802
LB-45 BOARD
no mark : REC/PB mode
D853
1SS250
D852
MA6S121-(TX)
IC851
MB3789PFV-G-BND-ER
DC/AC
CONVERTER
OUT
U.V.L.O
PCM COMP
SCP
POWER ON/OFF
VREF 2.5V
OSC
Q853
DISCHARGE
SWITCH
DTA123JUA-T106
IC857
TC74VHC123AFS
COUNTER
IC853
TA75W01FU
BUFFER
Q851, 852, 854, 855
SENSOR SWITCH
IC855
AUTO POWER ON/OFF
Q864, 865
LOGIC
UN9213J-(TX) .SO
2SB1462J-QR (TX) .SO
2SD2216J-QR (TX) .SO
2SB1622-ST-TD
L854
10µH
BA10324
①
②

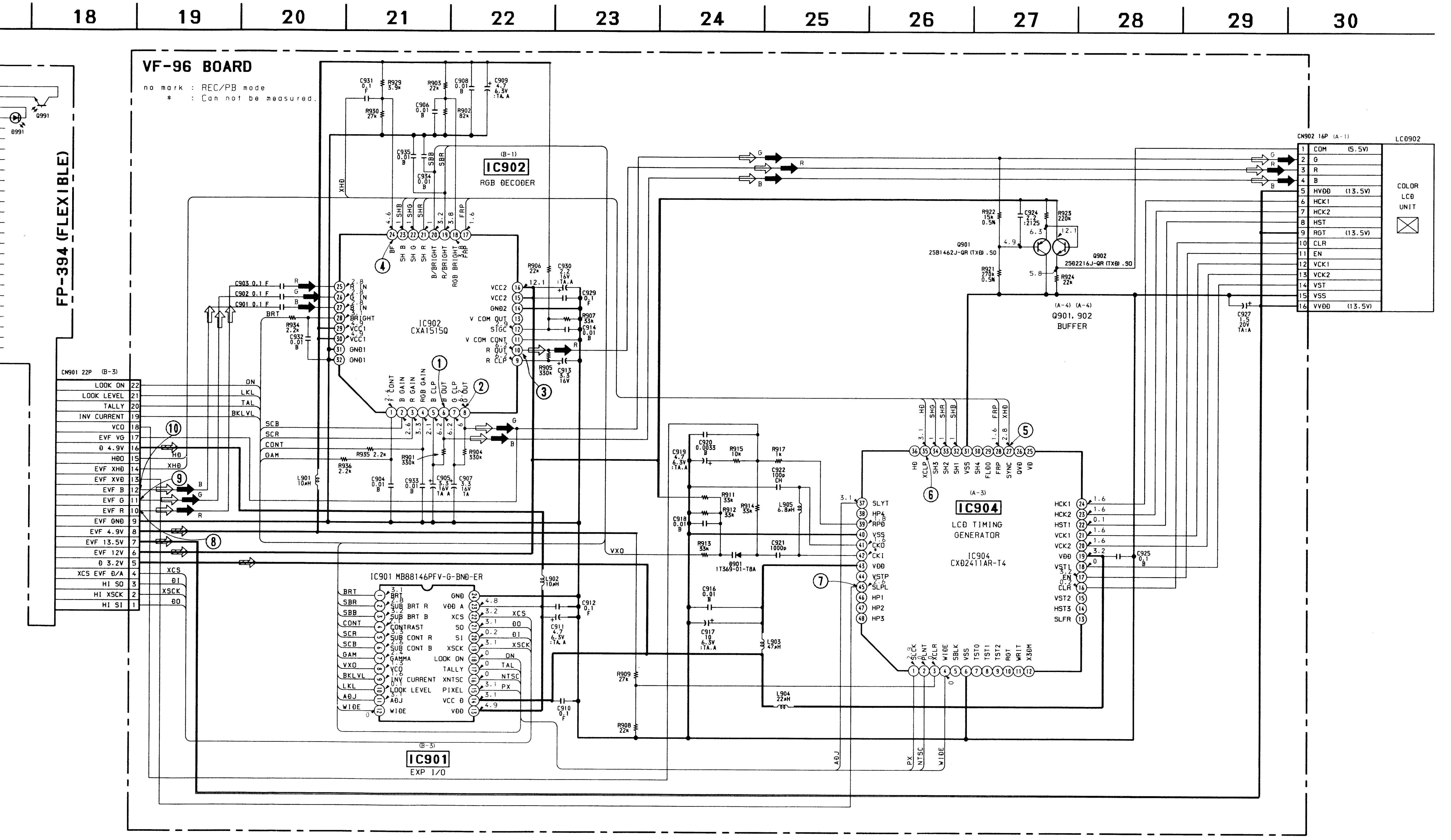
COLOR EVF MODEL:CCD-TR710E/TR910E

·SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡		
PB	⇨		

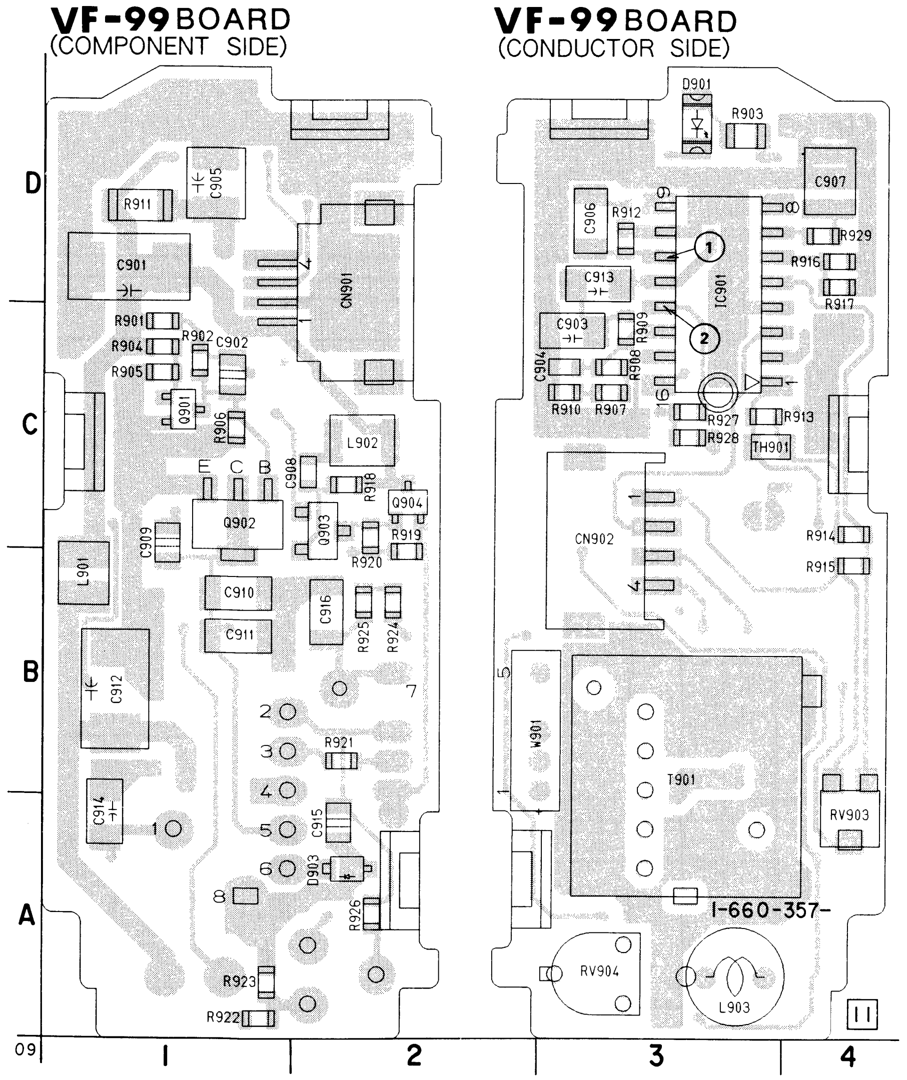
Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.


14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
VF-96 BOARD
no mark : REC/PB mode
* : Can not be measured.
FP-394 (FLEXIBLE)
CN852 26P (A-4)
1 SENSOR VCC 3.2V
2 SENSOR OUT
3 SENSOR IN K
4 SENSOR IN A
5 HI SI
6 HI XSCK
7 HI SO
8 XCS EVF D/A
9 D 3.2V
10 EVF 12V
11 EVF 13.5V
12 EVF 4.9V
13 EVF GND
14 EVF R
15 EVF G
16 EVF B
17 EVF XVD
18 EVF XHD
19 HDD
20 D 4.9V
21 EVF VG
22 VCO
23 INV CURRENT
24 TALLY
25 LOOK LEVEL
26 LOOK ON
Q991
D991
IC853 BUFFER
IC853 TA75W01FU
IC854 SWITCHING
IC854 TC7S66FU
IC855 BA10324AFV-E2
IC855
POWER ON/OFF
Q855
Q851 2SB1622-ST-TD
Q865 UN9213J-(TXD).SO
Q866 UN9213J-(TXD).SO
CN901 22P (B-3)
22 LOOK ON
21 LOOK LEVEL
20 TALLY
19 INV CURRENT
18 VCO
17 EVF VG
16 D 4.9V
15 HDD
14 EVF XHD
13 EVF XVD
12 EVF B
11 EVF G
10 EVF R
9 EVF GND
8 EVF 4.9V
7 EVF 13.5V
6 EVF 12V
5 D 3.2V
4 XCS EVF D/A
3 HI SO
2 HI XSCK
1 HI SI
IC902 RGB DECODER
IC902 CXA1515Q
IC901 MB88146PFV-G-BND-ER
IC901 EXP I/O
IC904 LCD TIMING GENERATOR
IC904 CXD2411AR-T4
Q901 2SB1462J-QR (TXD).SO
Q902 2SD2216J-QR (TXD).SO
Q901, 902 BUFFER
D901 1T369-01-T8A
L901 10µH
L902 10µH
L903 47µH
L904 22µH
L905 6.8µH


18
19
20
21
22
23
24
25
26
27
28
29
30
VF-96 BOARD
no mark : REC/PB mode
* : Can not be measured.
FP-394 (FLEXIBLE)
Q991
D991
(B-1)
IC902
RGB DECODER
IC902
CXA1515Q
IC901 MB88146PFV-G-BND-ER
(B-3)
IC901
EXP I/O
(A-3)
IC904
LCD TIMING GENERATOR
IC904
CXD2411AR-T4
Q901
2SB1462J-QR (TX)·SO
Q902
2SD2216J-QR (TX)·SO
(A-4) (A-4)
Q901, 902
BUFFER
CN901 22P (B-3)
LOOK ON 22
LOOK LEVEL 21
TALLY 20
INV CURRENT 19
VCO 18
EVF VG 17
D 4.9V 16
HD 15
EVF XHD 14
EVF XVD 13
EVF B 12
EVF G 11
EVF R 10
EVF GND 9
EVF 4.9V 8
EVF 13.5V 7
EVF 12V 6
D 3.2V 5
XCS EVF D/A 4
HI SO 3
HI XSCK 2
HI SI 1
CN902 16P (A-1)
1 COM (5.5V)
2 G
3 R
4 B
5 HVDD (13.5V)
6 HCK1
7 HCK2
8 HST
9 RGT (13.5V)
10 CLR
11 EN
12 VCK1
13 VCK2
14 VST
15 VSS
16 VVDD (13.5V)
LCD902
COLOR LCD UNIT
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩

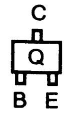
VF-99 (B/W EVF) PRINTED WIRING BOARD (B/W EVF MODEL ONLY)

— Ref No. VF-99 BOARD: 7,000 series —

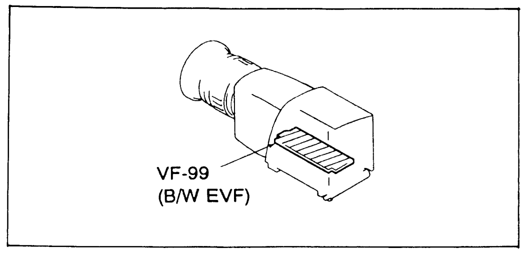

VF-99 BOARD
(COMPONENT SIDE)
VF-99 BOARD
(CONDUCTOR SIDE)
D
C
B
A
09
1
2
3
4
C901
C902
C905
C909
C910
C911
C912
C914
C915
C916
CN901
L901
L902
Q901
Q902
Q903
Q904
R901
R902
R904
R905
R906
R911
R918
R919
R920
R921
R922
R923
R924
R925
R926
D903
E C B
C908
D901
R903
C907
C906
R912
C913
C903
C904
R910
R907
R908
R909
IC901
R916
R917
R929
R913
R927
R928
TH901
CN902
R914
R915
W901
T901
RV903
RV904
L903
1-660-357-
11

VF-99 BOARD	
C901	D-1
C902	C-1
C903	C-3
C904	C-3
C905	D-1
C906	D-2
C907	D-4
C908	C-2
C909	C-1
C910	B-1
C911	B-1
C912	B-1
C913	D-2
C914	A-1
C915	A-2
C916	B-2
CN901	D-2
CN902	C-3
D901	D-2
D903	A-2
IC901	D-2
L901	B-1
L902	C-2
L903	A-3
Q901	C-1
Q902	C-1
Q903	C-2
Q904	C-2
R901	C-1
R902	C-1
R903	D-2
R904	C-1
R905	C-1
R906	C-1
R907	C-3
R908	C-3
R909	C-3
R910	C-3
R911	D-1
R912	D-2
R913	C-3
R914	C-4
R915	B-4
R916	D-4
R917	D-4
R918	C-2
R919	C-2
R920	C-2
R921	B-2
R922	A-1
R923	A-1
R924	B-2
R925	B-2
R926	A-2
R927	C-3
R928	C-3
R929	D-4
RV903	A-4
RV904	A-3
T901	B-3
TH901	C-3
W901	B-2

- **For printed wiring boards.**
- This board is a four-layer print board. However, the patterns of layers 2 and 3 have not been included in the diagram.
- Chip transistor

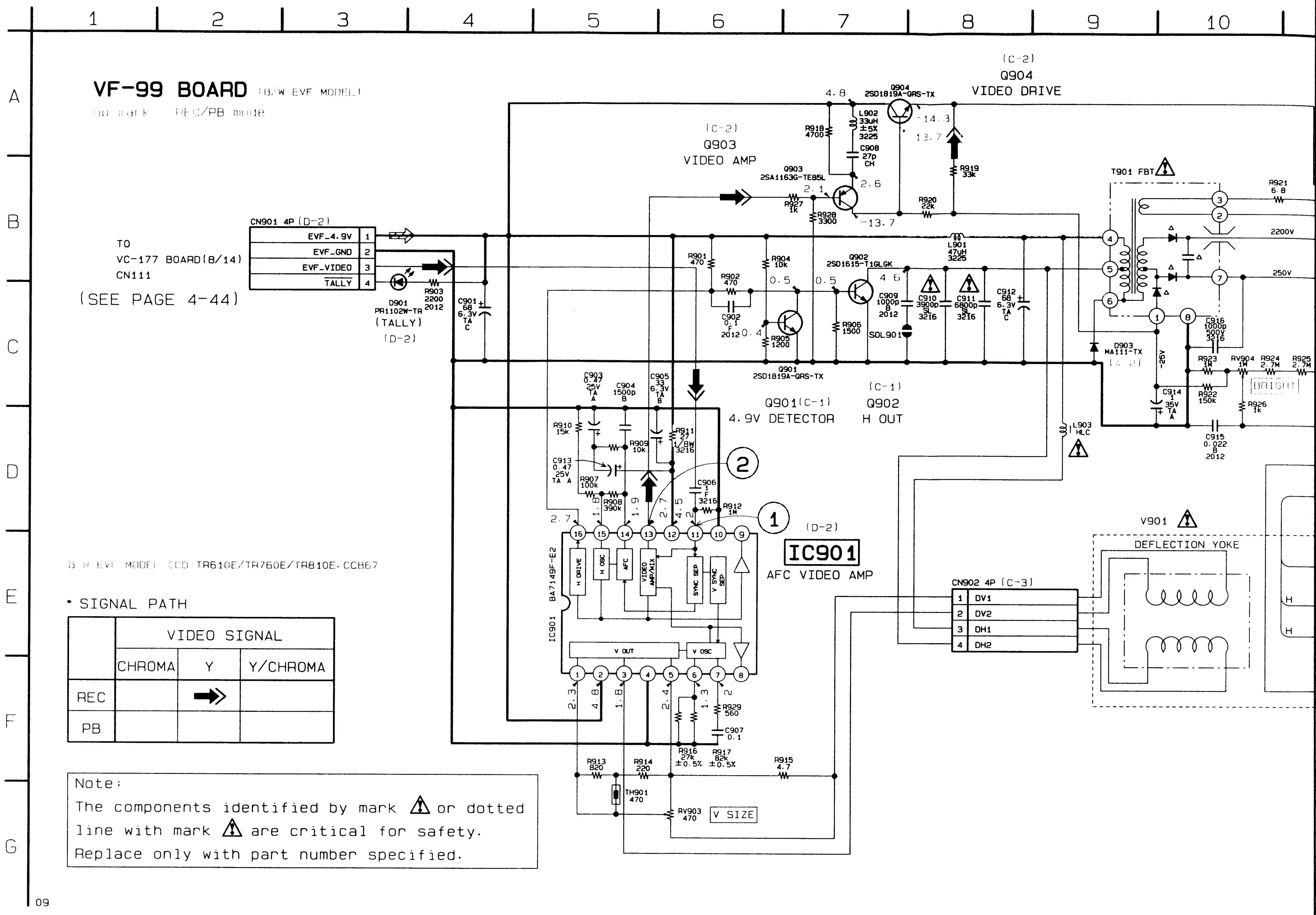


There are few cases that the part isn't mounted in this model is printed on this diagram.



VF-99 (B/W EVF) SCHEMATIC DIAGRAM (B/W EVF MODEL ONLY)

— Ref No. VF-99 BOARD: 7,000 series —

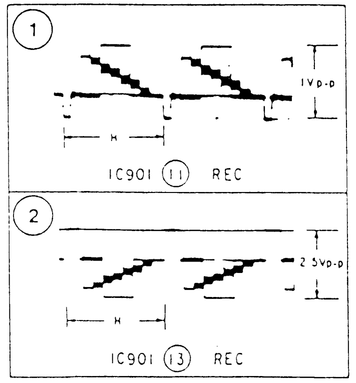

1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
VF-99 BOARD (B/W EVF MODEL)
REC/PB mode
(C-2)
Q904
VIDEO DRIVE
(C-2)
Q903
VIDEO AMP
Q903
2SA1163G-TE85L
Q904
2SD1819A-QRS-TX
Q902
2SD1615-T1GLGK
Q901
2SD1819A-QRS-TX
Q901 (C-1)
4.9V DETECTOR
(C-1)
Q902
H OUT
CN901 4P (D-2)
EVF_4.9V
EVF_GND
EVF_VIDEO
TALLY
TO
VC-177 BOARD (8/14)
CN111
(SEE PAGE 4-44)
D901
PR1102W-TR
(TALLY)
(D-2)
T901 FBT
2200V
250V
V901
DEFLECTION YOKE
CN902 4P (C-3)
DV1
DV2
DH1
DH2
IC901
BA7149F-E2
(D-2)
AFC VIDEO AMP
H DRIVE
H OSC
AFC
VIDEO AMP/MIX
SYNC SEP
V SYNC SEP
V OUT
V OSC
L901
47uH
L902
33uH
L903
HLC
D903
MA111-TX
SOL901
RV903
470
V SIZE
RV904
1M
BRIGHT
TH901
470
09
B/W EVF MODEL CCD-TR610E/TR760E/TR810E/CC867

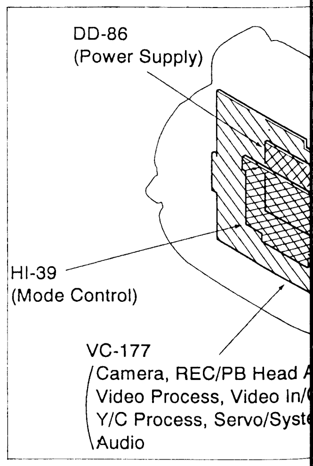
• SIGNAL PATH

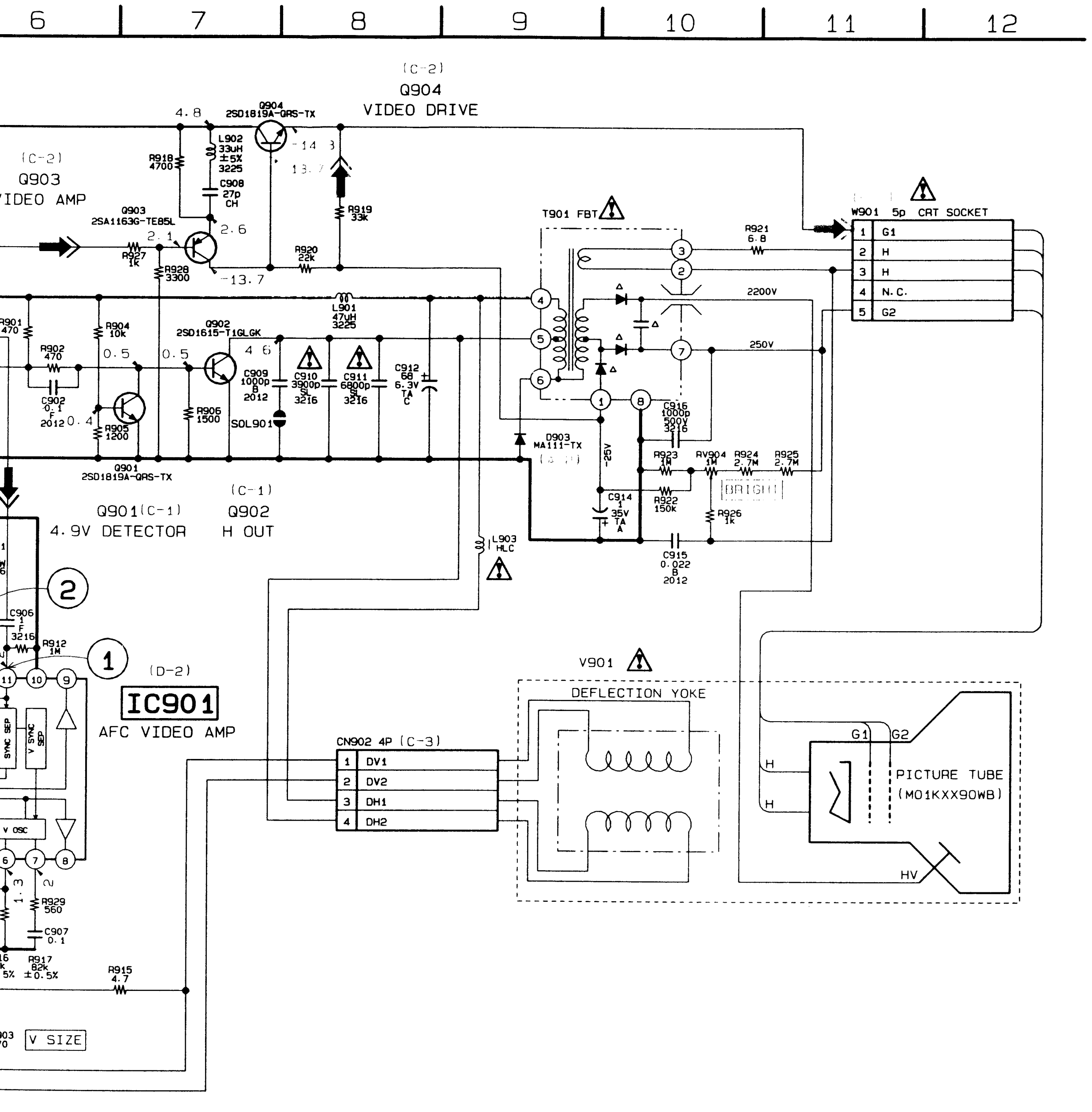
	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC		➡	
PB			

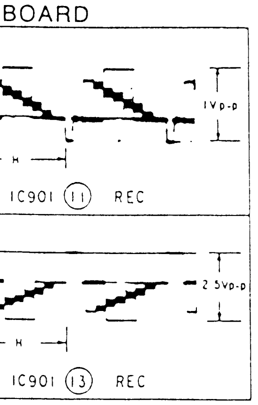
Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

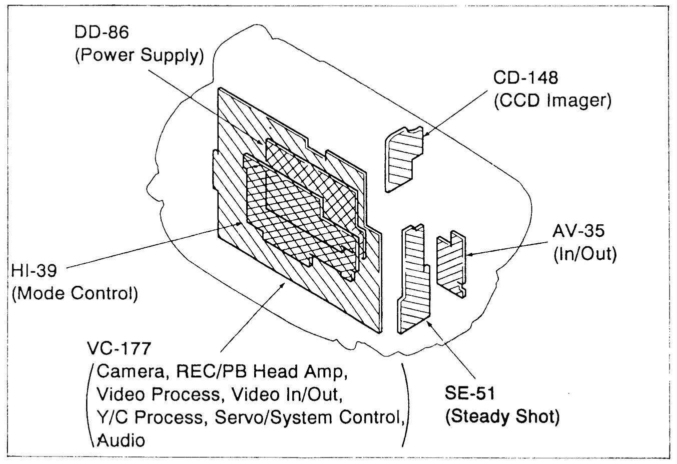
VF-99 BOARD




DD-86
(Power Supply)
HI-39
(Mode Control)
VC-177
(Camera, REC/PB Head
Video Process, Video In/
Y/C Process, Servo/Syst
Audio


6
7
8
9
10
11
12
(C-2)
Q904
VIDEO DRIVE
Q903
VIDEO AMP
Q901 (C-1)
4.9V DETECTOR
Q902
H OUT
T901 FBT
W901 5p CRT SOCKET
G1
H
H
N.C.
G2
2200V
250V
SOL901
L903
HLC
V901
DEFLECTION YOKE
CN902 4P (C-3)
DV1
DV2
DH1
DH2
PICTURE TUBE
(M01KXX90WB)
HV
IC901
AFC VIDEO AMP
(D-2)
BRIGHT
V SIZE



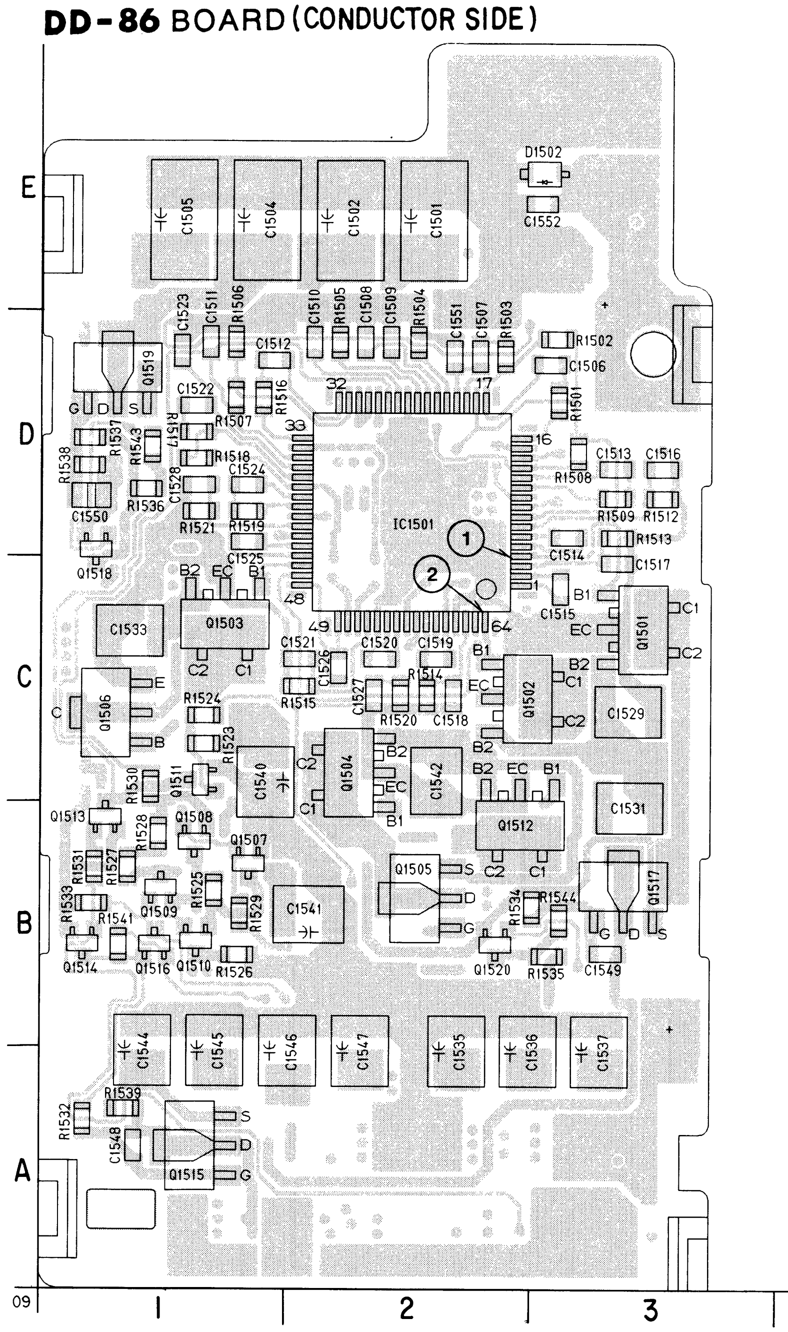

DD-86
(Power Supply)
CD-148
(CCD Imager)
AV-35
(In/Out)
HI-39
(Mode Control)
VC-177
(Camera, REC/PB Head Amp,
Video Process, Video In/Out,
Y/C Process, Servo/System Control,
Audio
SE-51
(Steady Shot)

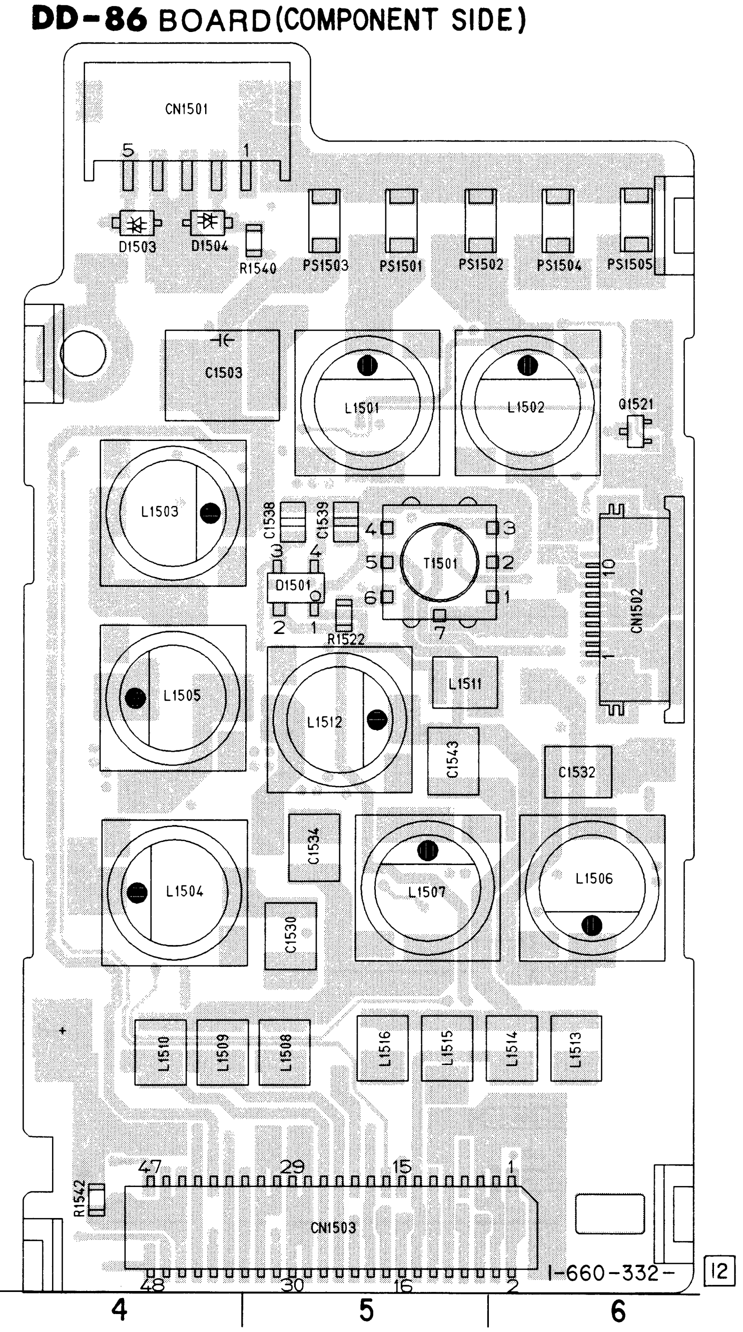
DD-86 BOARD

C1501	E-2
C1502	E-2
C1503	D-4
C1504	E-1
C1506	D-3
C1507	D-2
C1508	D-2
C1509	D-2
C1510	D-2
C1511	D-1
C1512	D-1
C1513	D-3
C1514	D-3
C1515	C-3
C1519	C-2
C1520	C-2
C1522	D-1
C1523	D-1
C1524	D-1
C1525	D-1
C1526	C-2
C1529	C-3
C1530	B-5
C1531	B-3
C1532	C-6
C1533	C-1
C1534	B-5
C1535	A-2
C1536	A-2
C1537	A-3
C1538	D-5
C1539	D-5
C1540	C-1
C1541	B-2
C1542	C-2
C1543	C-5
C1544	A-1
C1545	A-1
C1546	A-1
C1547	A-2
C1548	A-1
C1549	B-3
C1550	D-1
C1551	D-2
CN1501	E-4
CN1503	A-5
D1501	C-5
D1502	E-3
D1503	E-4
D1504	E-4
IC1501	D-2
L1501	D-5
L1502	D-6
L1503	D-4
L1504	B-4
L1505	C-4
L1506	B-6
L1507	B-5
L1508	B-5
L1509	B-4
L1510	B-4
L1511	C-5
L1512	C-5
L1513	B-6
L1514	B-6
L1515	B-5
L1516	B-5
PS1501	E-5
PS1502	E-5
PS1503	E-5
PS1504	E-6
Q1501	C-3
Q1502	C-2
Q1503	C-1
Q1504	C-2
Q1505	B-2
Q1506	C-1
Q1507	B-1
Q1508	B-1
Q1509	B-1
Q1510	B-1
Q1511	C-1
Q1512	B-2
Q1513	B-1
Q1514	B-1
Q1515	A-1
Q1516	B-1
Q1517	B-3
Q1518	D-1
Q1519	D-1
Q1520	B-2
Q1521	D-6
R1501	D-3
R1503	D-2
R1504	D-2
R1505	D-2
R1506	D-1
R1507	D-1
R1508	D-3
R1509	D-3
R1512	D-3
R1513	D-3
R1514	C-2
R1515	C-2
R1516	D-1
R1517	D-1
R1519	D-1
R1520	C-2
R1521	D-1
R1522	C-5
R1523	C-1
R1524	C-1
R1525	B-1
R1526	B-1
R1527	B-1
R1528	B-1
R1529	B-1
R1530	C-1
R1531	B-1
R1532	A-1
R1533	B-1
R1534	B-3
R1535	B-3
R1536	D-1
R1537	D-1
R1538	D-1
R1539	A-1
R1543	D-1
R1544	B-3
T1501	C-5

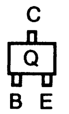
DD-86 (POWER SUPPLY) PRINTED WIRING BOARD

— Ref No. DD-86 BOARD: 20,000 series —


DD-86 BOARD (CONDUCTOR SIDE)
E
D
C
B
A
09
1
2
3
IC1501
D1502
C1552
Q1519
Q1518
Q1503
Q1506
Q1501
Q1502
Q1504
Q1511
Q1513
Q1508
Q1507
Q1505
Q1512
Q1509
Q1510
Q1514
Q1516
Q1517
Q1520
Q1515
C1505
C1504
C1502
C1501
C1533
C1529
C1531
C1541
C1540
C1542
C1544
C1545
C1546
C1547
C1535
C1536
C1537
C1549
C1548
R1532
R1539
R1526
R1535


DD-86 BOARD (COMPONENT SIDE)
CN1501
5
1
D1503
D1504
R1540
PS1503
PS1501
PS1502
PS1504
PS1505
C1503
L1501
L1502
Q1521
L1503
C1538
C1539
T1501
D1501
R1522
CN1502
L1505
L1512
L1511
C1543
C1532
C1534
L1504
C1530
L1507
L1506
L1510
L1509
L1508
L1516
L1515
L1514
L1513
R1542
CN1503
47
29
15
1
48
30
16
2
1-660-332-
12
4
5
6

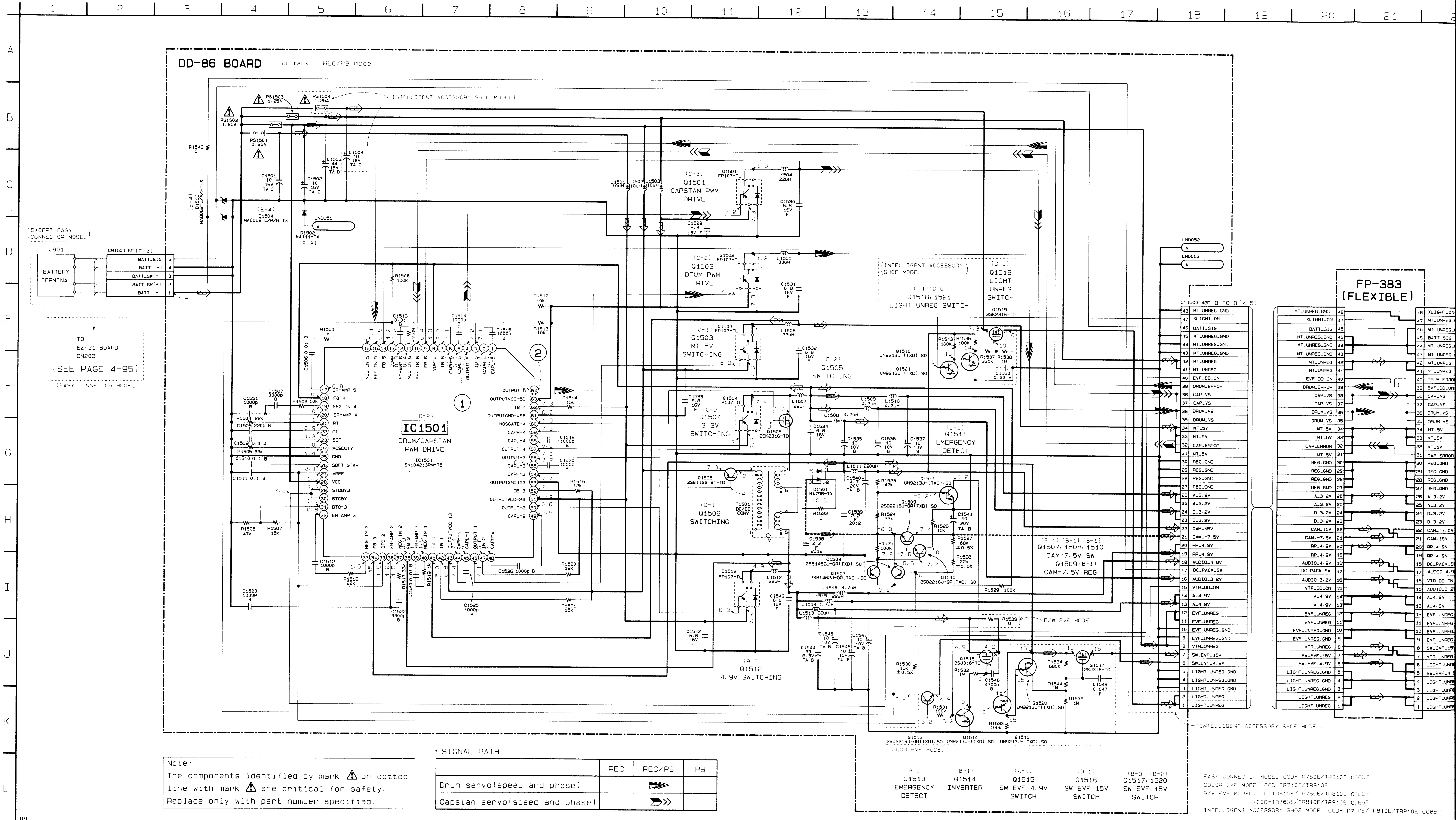
- **For printed wiring boards.**
- This board is a four-layer print board. However, the patterns of layers 2 and 3 have not been included in the diagram.
- Chip transistor



There are few cases that the part isn't mounted in this model is printed on this diagram.

DD-86 (POWER SUPPLY) SCHEMATIC DIAGRAM

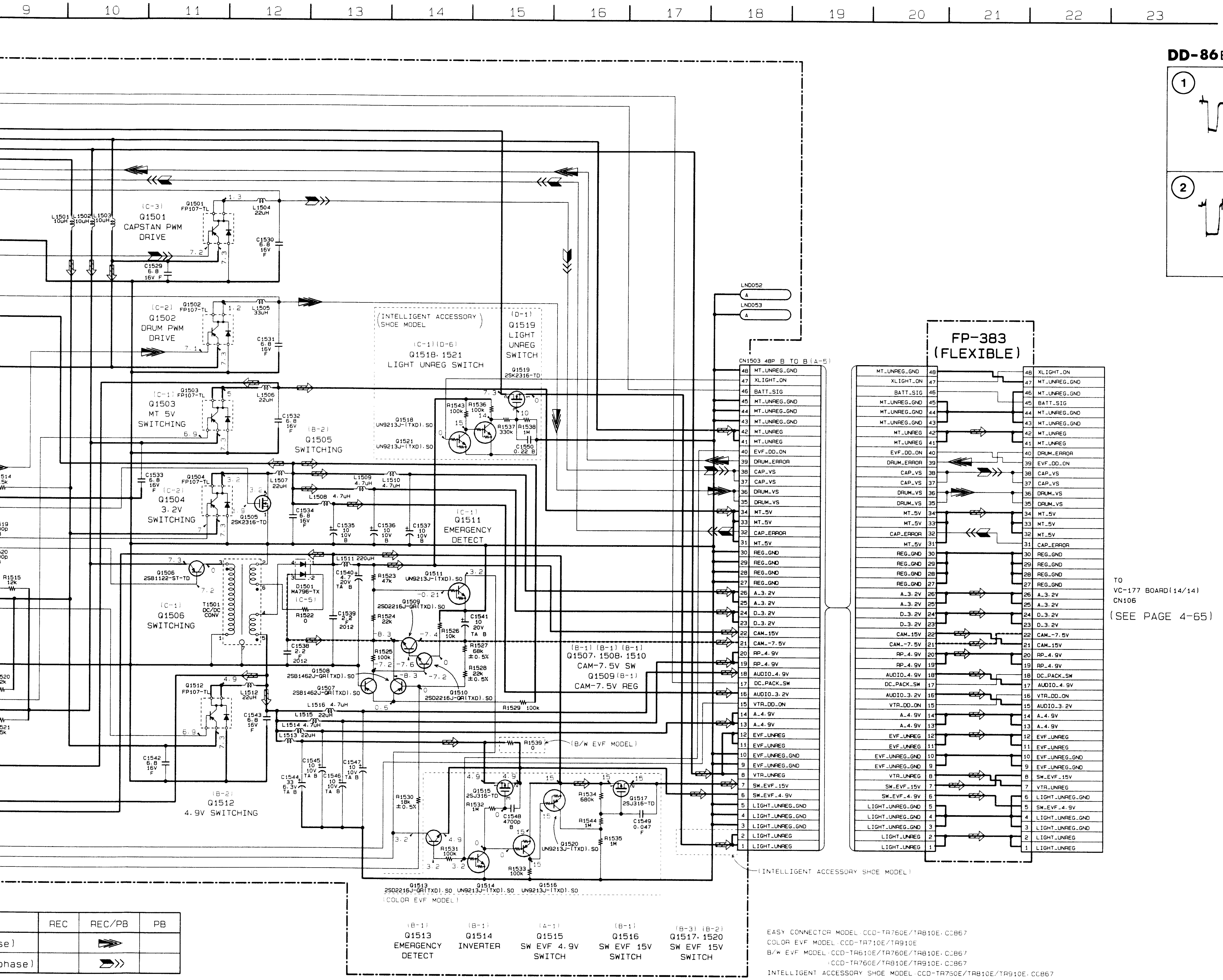
— Ref No. DD-86 BOARD: 20,000 series —


DD-86 BOARD
no mark : REC/PB mode
PS1503 1.25A
PS1504 1.25A
(INTELLIGENT ACCESSORY SHOE MODEL)
PS1502 1.25A
PS1501 1.25A
R1540 0
C1503 33 16V TA D
C1504 10 16V TA C
C1501 10 16V TA C
C1502 10 16V TA C
D1503 MA8082-L/M/H-TX
D1504 MA8082-L/M/H-TX
D1502 MA111-TX
LND051
(EXCEPT EASY CONNECTOR MODEL)
J901
BATTERY TERMINAL
CN1501 5P
BATT_SIG
BATT_(-)
BATT_SW(-)
BATT_SW(+)
BATT_(+)
TO EZ-21 BOARD CN203
(SEE PAGE 4-95)
(EASY CONNECTOR MODEL)
IC1501
DRUM/CAPSTAN PWM DRIVE
IC1501 SN104213PM-T6
ER-AMP 5
FB 4
NEG IN 4
ER-AMP 4
RT
CT
SCP
MOSDUTY
GND
SOFT START
VREF
VCC
STDBY3
STCBY
DTC-3
ER-AMP 3
OUTPUT-5
OUTPUTVCC-56
IB 4
OUTPUTGND-456
MOSGATE-4
CAPH-4
CAPL-4
OUTPUT-4
OUTPUT-3
CAPL-3
CAPH-3
OUTPUTGND123
IB 3
OUTPUTVCC-24
OUTPUT-2
CAPL-2
R1508 100k
R1501 1k
R1512 10k
R1513 10k
R1514 15k
R1515 12k
R1520 12k
R1521 15k
R1503 10k
R1504 22k
R1505 33k
R1506 47k
R1507 18k
R1516 22k
R1517 33k
R1519 1k
R1509 1k
C1506 0.01 B
C1507 3300p B
C1508 220p B
C1509 0.1 B
C1510 0.1 B
C1511 0.1 B
C1512 1000p B
C1513 0.01 B
C1514 1000p B
C1515 1000p B
C1519 1000p B
C1520 1000p B
C1522 3300p B
C1523 1000P B
C1524 0.01 B
C1525 1000p B
C1526 1000p B
C1551 1000p B
L1501 10uH
L1502 10uH
L1503 10uH
Q1501 FP107-TL
Q1501 CAPSTAN PWM DRIVE
L1504 22uH
C1530 6.8 16V F
C1529 6.8 16V F
Q1502 FP107-TL
Q1502 DRUM PWM DRIVE
L1505 33uH
C1531 6.8 16V F
Q1503 FP107-TL
Q1503 MT 5V SWITCHING
L1506 22uH
C1532 6.8 16V F
Q1505 SWITCHING
Q1504 FP107-TL
Q1504 3.2V SWITCHING
Q1505 2SK2316-TD
C1533 6.8 16V F
L1507 22uH
L1508 4.7uH
L1509 4.7uH
L1510 4.7uH
C1534 6.8 16V F
C1535 10 10V B
C1536 10 10V B
C1537 10 10V B
Q1511 EMERGENCY DETECT
(INTELLIGENT ACCESSORY SHOE MODEL)
Q1518, 1521 LIGHT UNREG SWITCH
Q1519 LIGHT UNREG SWITCH
Q1519 2SK2316-TD
Q1518 UN9213J-(TXD).SO
Q1521 UN9213J-(TXD).SO
R1543 100k
R1536 100k
R1537 330k
R1538 1M
C1550 0.22 B
Q1506 2SB1122-ST-TD
Q1506 SWITCHING
T1501 DC/DC CONV
D1501 MA796-TX
L1511 220uH
C1540 4.7 20V TA B
R1523 47k
Q1511 UN9213J-(TXD).SO
Q1509 2SD2216J-QR(TXD).SO
R1522 0
C1539 2.2 2012
R1524 22k
R1526 10k
C1541 10 20V TA B
C1538 2.2 2012
R1525 100k
R1527 68k ±0.5%
R1528 22k ±0.5%
Q1508 2SB1462J-QR(TXD).SO
Q1507 2SB1462J-QR(TXD).SO
Q1510 2SD2216J-QR(TXD).SO
Q1507, 1508, 1510 CAM-7.5V SW
Q1509 CAM-7.5V REG
R1529 100k
Q1512 FP107-TL
Q1512 4.9V SWITCHING
L1512 22uH
C1543 6.8 16V F
C1542 6.8 16V F
L1516 4.7uH
L1515 22uH
L1514 4.7uH
L1513 22uH
R1539 0
(B/W EVF MODEL)
C1545 10 10V TA B
C1547 10 10V TA B
C1544 33 6.3V TA B
C1546 10 10V TA B
R1530 18k ±0.5%
Q1515 2SJ316-TD
R1532 1M
C1548 4700p B
R1534 680k
Q1517 2SJ316-TD
C1549 0.047 F
R1544 1M
R1535 1M
Q1520 UN9213J-(TXD).SO
R1531 100k
R1533 100k
Q1513 2SD2216J-QR(TXD).SO
Q1514 UN9213J-(TXD).SO
Q1516 UN9213J-(TXD).SO
(COLOR EVF MODEL)
Q1513 EMERGENCY DETECT
Q1514 INVERTER
Q1515 SW EVF 4.9V SWITCH
Q1516 SW EVF 15V SWITCH
Q1517, 1520 SW EVF 15V SWITCH
LND052
LND053
CN1503 48P B TO B
MT_UNREG_GND
XLIGHT_ON
BATT_SIG
MT_UNREG
EVF_DD_ON
DRUM_ERROR
CAP_VS
DRUM_VS
MT_5V
CAP_ERROR
REG_GND
A_3.2V
D_3.2V
CAM_15V
CAM_-7.5V
RP_4.9V
AUDIO_4.9V
DC_PACK_SW
AUDIO_3.2V
VTR_DD_ON
A_4.9V
EVF_UNREG
EVF_UNREG_GND
VTR_UNREG
SW_EVF_15V
SW_EVF_4.9V
LIGHT_UNREG_GND
LIGHT_UNREG
FP-383 (FLEXIBLE)
(INTELLIGENT ACCESSORY SHOE MODEL)
EASY CONNECTOR MODEL CCD-TR760E/TR810E, CC867
COLOR EVF MODEL CCD-TR710E/TR910E
B/W EVF MODEL:CCD-TR610E/TR760E/TR810E, CC867
:CCD-TR760E/TR810E/TR910E, CC867
INTELLIGENT ACCESSORY SHOE MODEL:CCD-TR760E/TR810E/TR910E, CC867

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

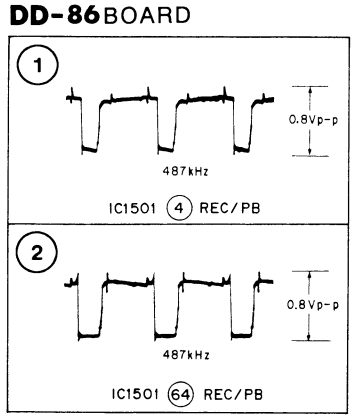
• SIGNAL PATH

	REC	REC/PB	PB
Drum servo(speed and phase)		➠	
Capstan servo(speed and phase)		➡››	

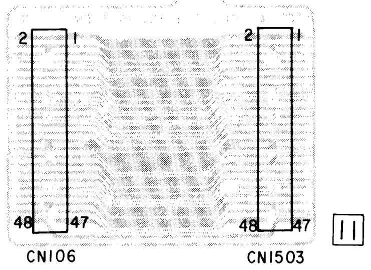

9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
Q1501 CAPSTAN PWM DRIVE
Q1502 DRUM PWM DRIVE
Q1503 MT 5V SWITCHING
Q1505 SWITCHING
Q1504 3.2V SWITCHING
Q1506 SWITCHING
T1501 DC/DC CONV
Q1512 4.9V SWITCHING
(INTELLIGENT ACCESSORY SHOE MODEL)
Q1518, 1521 LIGHT UNREG SWITCH
Q1519 LIGHT UNREG SWITCH
Q1511 EMERGENCY DETECT
Q1507, 1508, 1510 CAM-7.5V SW
Q1509 CAM-7.5V REG
(B/W EVF MODEL)
(COLOR EVF MODEL)
Q1513 EMERGENCY DETECT
Q1514 INVERTER
Q1515 SW EVF 4.9V SWITCH
Q1516 SW EVF 15V SWITCH
Q1517, 1520 SW EVF 15V SWITCH
CN1503 48P B TO B
FP-383 (FLEXIBLE)
TO VC-177 BOARD(14/14) CN106
(SEE PAGE 4-65)
(INTELLIGENT ACCESSORY SHOE MODEL)
REC
REC/PB
PB

EASY CONNECTOR MODEL : CCD-TR760E/TR810E, CC867
COLOR EVF MODEL : CCD-TR710E/TR910E
B/W EVF MODEL : CCD-TR610E/TR760E/TR810E, CC867
: CCD-TR760E/TR810E/TR910E, CC867
INTELLIGENT ACCESSORY SHOE MODEL : CCD-TR760E/TR810E/TR910E, CC867

DD-86 BOARD



FP-383 BOARD


2
1
48
47
CN106
CN1503
[1]

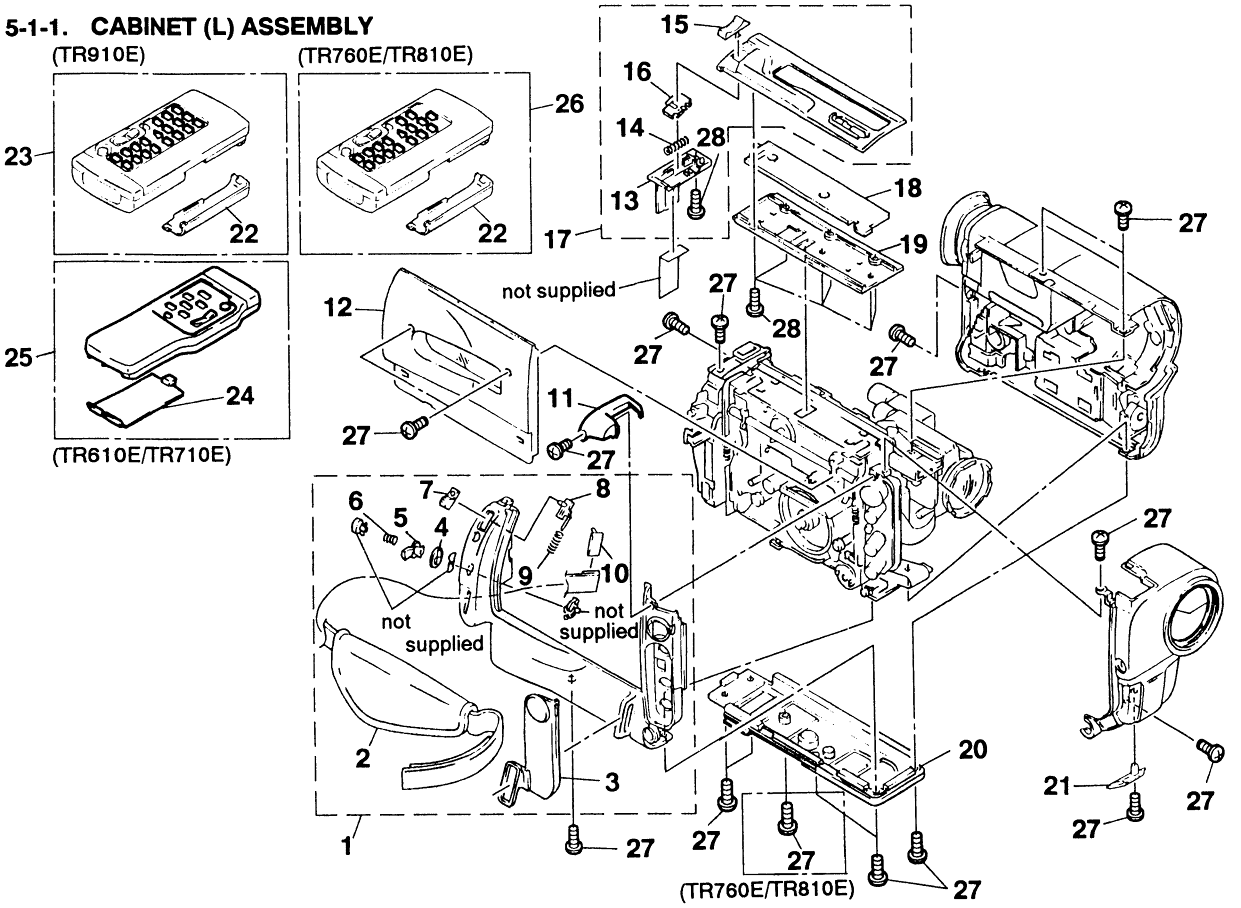
SECTION 5
REPAIR PARTS LIST

5-1. EXPLODED VIEWS

NOTE:
- Items marked " ∗ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hong Kong model is abbreviated as HK.
- Tourist model is abbreviated as JE.

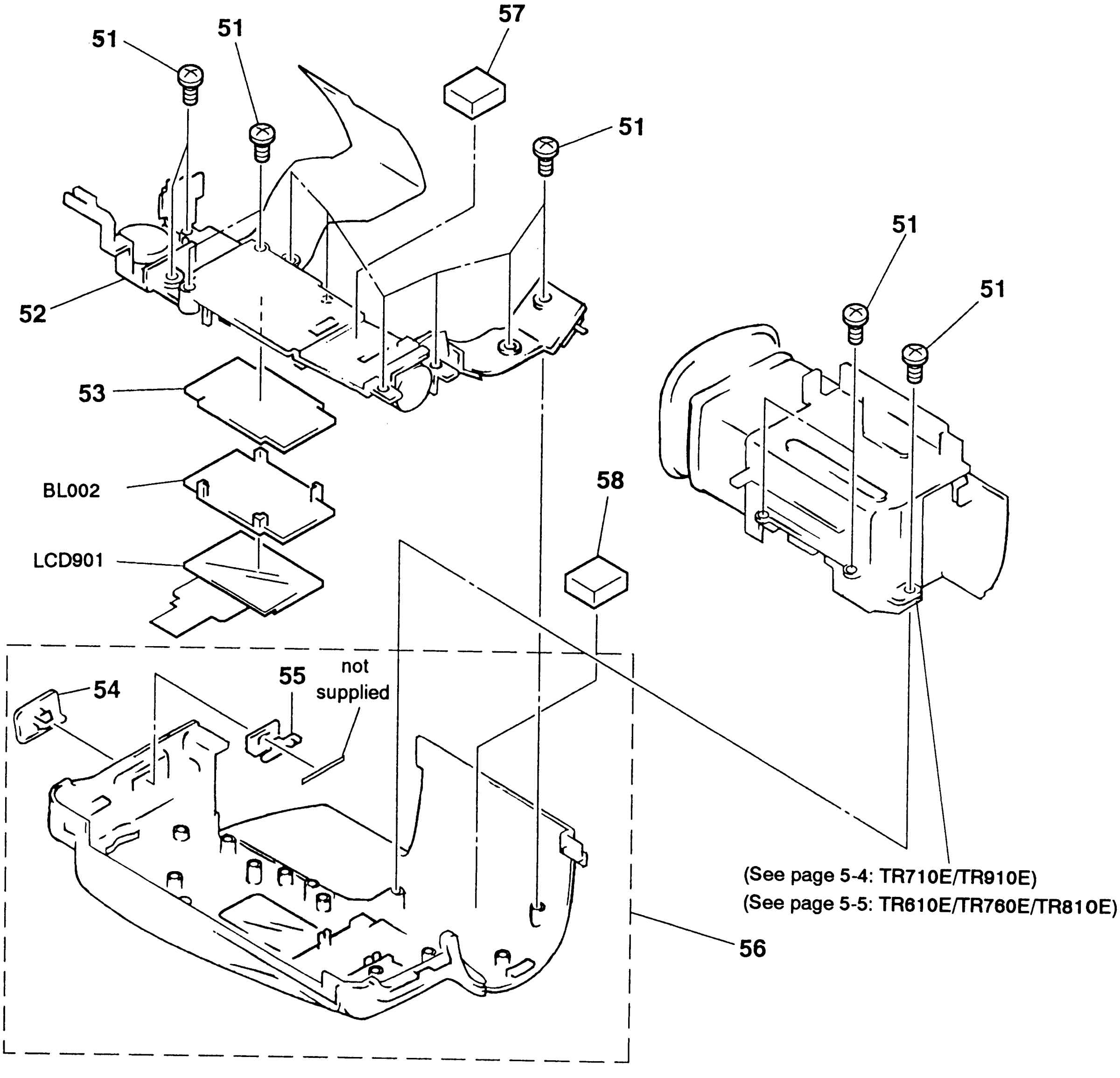
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

5-1-1. CABINET (L) ASSEMBLY



Ref. No.	Part No.	Description	Remark
1	X-3945-931-1	CABINET (L) ASSY (TR760E/TR810E/TR910E)	
1	X-3946-034-1	CABINET (L) ASSY (TR610E/TR710E)	
2	3-969-339-01	BELT, GRIP	
3	3-968-781-01	LID, JACK (TR760E/TR810E/TR910E)	
3	3-968-781-11	LID, JACK (TR610E/TR710E)	
4	3-736-364-01	SPRING, STAND-BY	
5	3-969-081-01	KNOB, STAND-BY	
6	3-578-221-00	SPRING, COMPRESSION	
7	3-968-779-01	BUTTON, EJECT (TR760E/TR810E/TR910E)	
7	3-968-779-11	BUTTON, EJECT (TR610E/TR710E)	
8	3-968-780-01	LOCK, EJECT	
9	3-302-492-00	SPRING, COMPRESSION	
10	3-942-895-01	STOPPER, BELT	
11	3-968-800-01	CABINET, SHOE (TR760E/TR810E/TR910E)	
11	3-968-800-11	CABINET, SHOE (TR610E/TR710E)	
12	X-3945-932-1	LID ASSY, CASSETTE(TR760E/TR810E/TR910E)	
12	X-3946-027-1	LID ASSY, CASSETTE (TR610E/TR710E)	
13	3-968-773-01	BASE, ZOOM	
14	3-970-851-01	SPRING, COMPRESSION	
15	3-968-774-01	LEVER, ZOOM (TR760E/TR810E/TR910E)	
15	3-968-774-11	LEVER, ZOOM (TR610E/TR710E)	
16	3-968-775-01	SLIDER, ZOOM	
17	X-3945-930-1	UPPER ASSY, LS (TR760E/TR810E)	
17	X-3946-017-1	UPPER ASSY, LS (TR910E)	
17	X-3946-026-1	UPPER ASSY, LS (TR610E:AEP,UK)	
17	X-3946-221-1	UPPER ASSY, LS (TR610E:E/TR710E)	
18	A-7072-563-A	FK-66 (HP) BOARD, COMPLETE (TR810E)	
18	A-7072-636-A	FK-66 (MP) BOARD, COMPLETE (TR610E:AEP,UK)	
18	A-7072-828-A	FK-66 (HLP) BOARD, COMPLETE (TR760E)	
19	3-968-799-01	LS (LOWER)	
20	X-3945-935-1	BOTTOM ASSY, CABINET (TR760E/TR810E)	
20	X-3946-025-1	BOTTOM ASSY, CABINET (TR910E)	
20	X-3946-172-1	BOTTOM ASSY, CABINET (TR610E/TR710E)	
21	3-968-796-01	LID, CPC (TR760E/TR810E/TR910E)	
21	3-968-796-11	LID, CPC (TR610E/TR710E)	
22	3-742-854-01	LID, BATTERY CASE (for RMT-715/716)	
23	8-917-540-90	REMOCON RMT-715//M SET (TR910E)	
24	3-958-131-01	LID, BATTERY CASE (for RMT-708)	
25	1-467-574-21	REMOTE COMMANDER (RMT-708) (TR610E/TR710E)	
26	8-917-540-90	REMOCON RMT-716//M SET (TR760E/TR810E)	
27	3-719-381-01	SCREW (M2X4)	
28	3-713-791-51	SCREW (M1.7X3.5), TAPPING, P2	

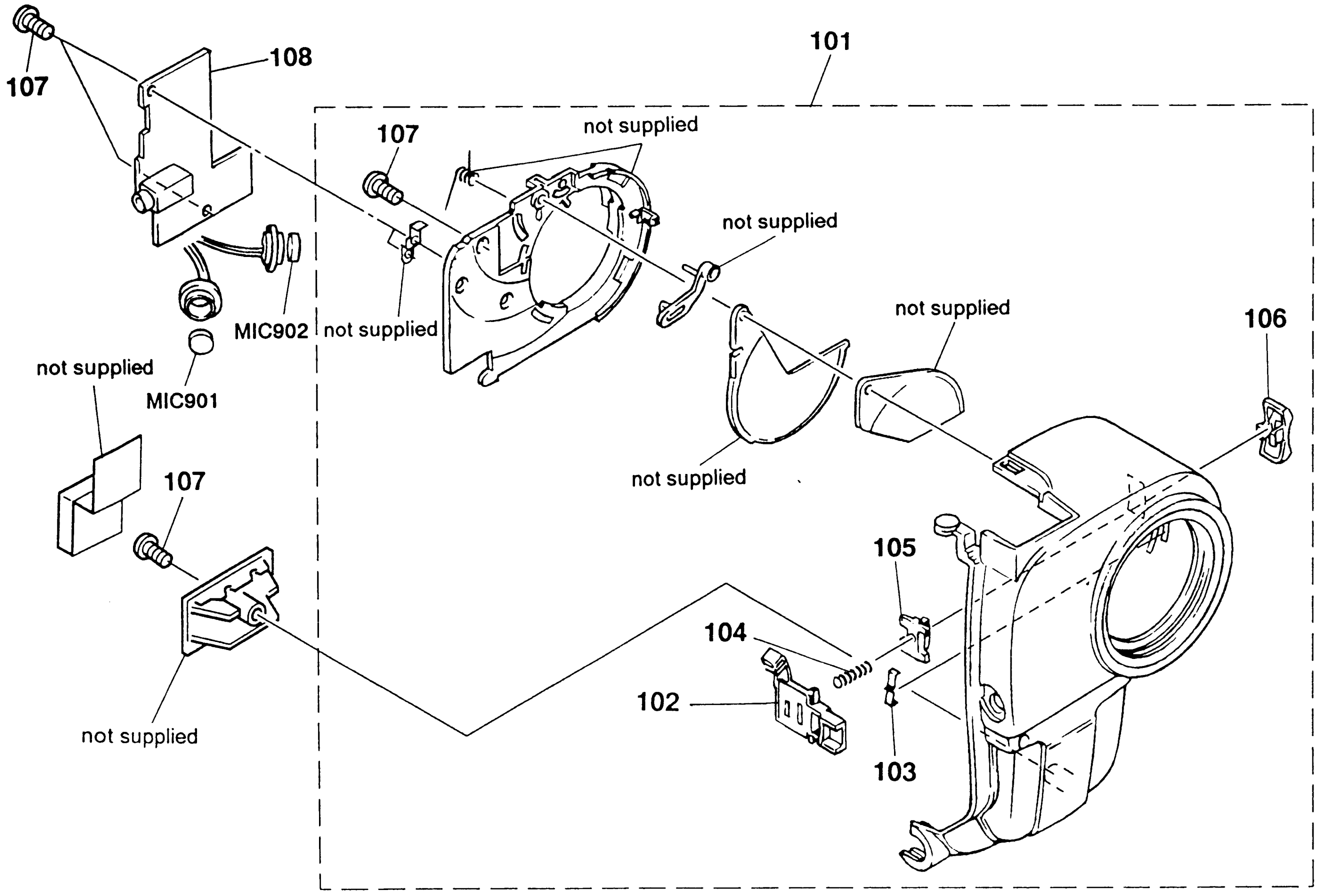
5-1-2. CABINET (R) ASSEMBLY



(See page 5-4: TR710E/TR910E)
(See page 5-5: TR610E/TR760E/TR810E)

Ref. No.	Part No.	Description	Remark
51	3-948-339-01	SCREW, TAPPING	
52	1-473-604-11	SWITCH BLOCK, CONTROL (CF-6300)	
53	A-7072-548-A	LC-52 (HC) BOARD, COMPLETE	
54	3-968-758-01	KNOB, S/S MODE (TR760E/TR810E/TR910E)	
54	3-968-758-11	KNOB, S/S MODE (TR610E/TR710E)	
55	3-968-759-01	MODE, S/S	
56	X-3946-016-1	CABINET (R) ASSY (TR910E)	
56	X-3946-031-1	CABINET (R) ASSY (TR610E:AEP, UK)	
56	X-3946-032-1	CABINET (R) ASSY (TR760E)	
56	X-3946-033-1	CABINET (R) ASSY (TR610E:E/TR710E)	
56	X-3946-928-1	CABINET (R) ASSY (TR810E)	
* 57	3-971-132-01	CUSHION (R1), ABSORBENT	
* 58	3-971-133-01	CUSHION (R2), ABSORBENT	
BL002	1-517-528-11	LIGHT, BACK	
LCD901	1-801-207-11	DISPLAY PANEL, LIQUID CRYSTAL	

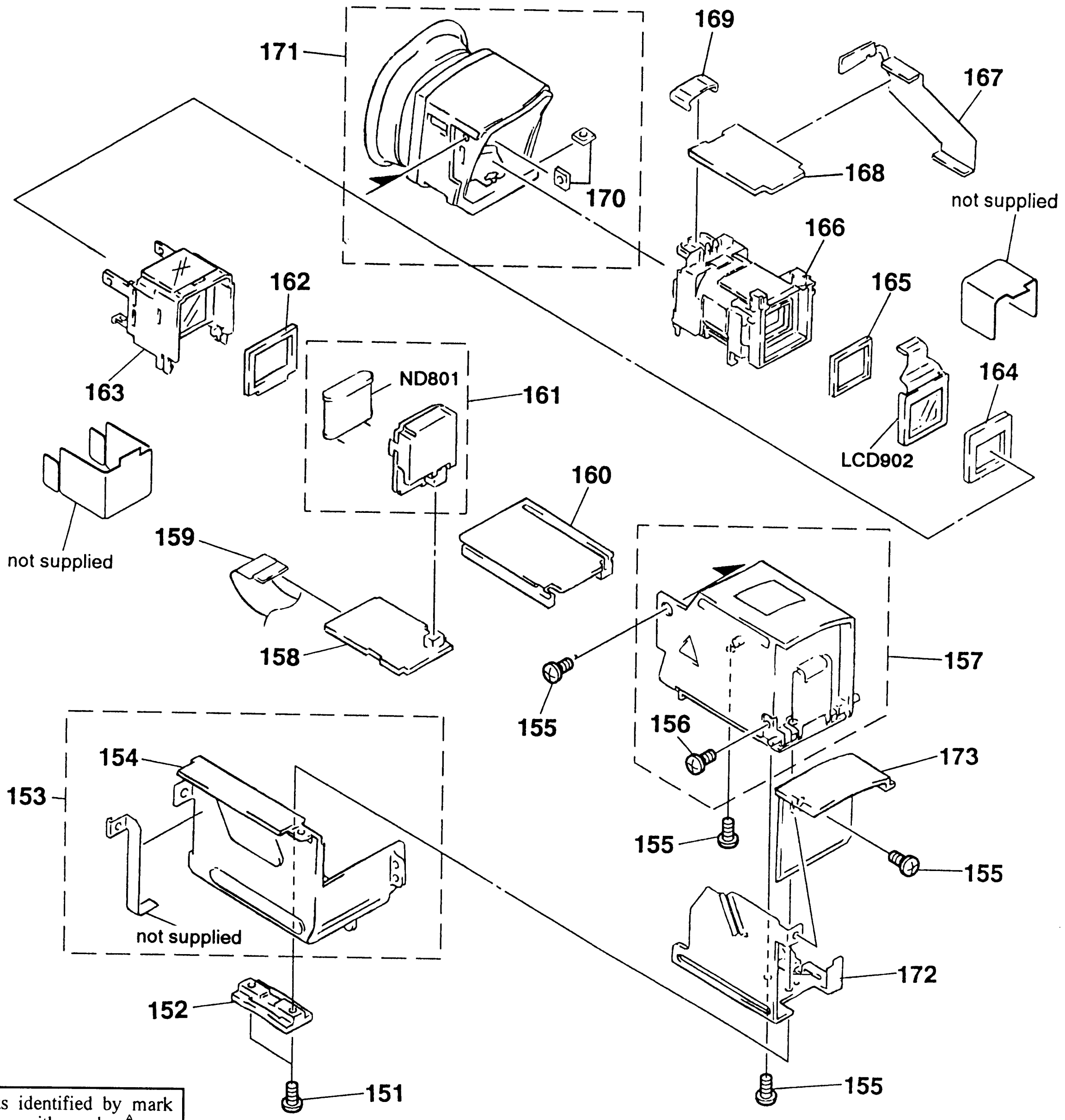
5-1-3. FRONT PANEL ASSEMBLY


107
108
101
107
not supplied
not supplied
not supplied
106
MIC902
not supplied
not supplied
MIC901
107
not supplied
105
104
102
103
not supplied

Ref. No.	Part No.	Description	Remark
101	X-3945-927-1	PANEL ASSY, FRONT (TR760E/TR810E)	
101	X-3946-028-1	PANEL ASSY, FRONT (TR610E:AEP,UK)	
101	X-3946-029-1	PANEL ASSY, FRONT (TR910E)	
101	X-3946-030-1	PANEL ASSY, FRONT (TR610E:E/TR710E)	
102	3-968-741-01	RETAINER, POWER BUTTON	
103	3-969-270-01	SPRING, CLICK	
104	3-965-034-01	SPRING, COMPRESSION	

Ref. No.	Part No.	Description	Remark
105	3-968-740-01	BUTTON, POWER LOCK	
106	3-968-739-01	BUTTON, POWER (TR760E/TR810E/TR910E)	
106	3-968-739-11	BUTTON, POWER (TR610E/TR710E)	
107	3-948-339-01	SCREW, TAPPING	
108	A-7072-547-A	MA-268 (HC) BOARD, COMPLETE	
MIC901	1-542-259-11	MICROPHONE, CAP	
MIC902	1-542-259-11	MICROPHONE, CAP	

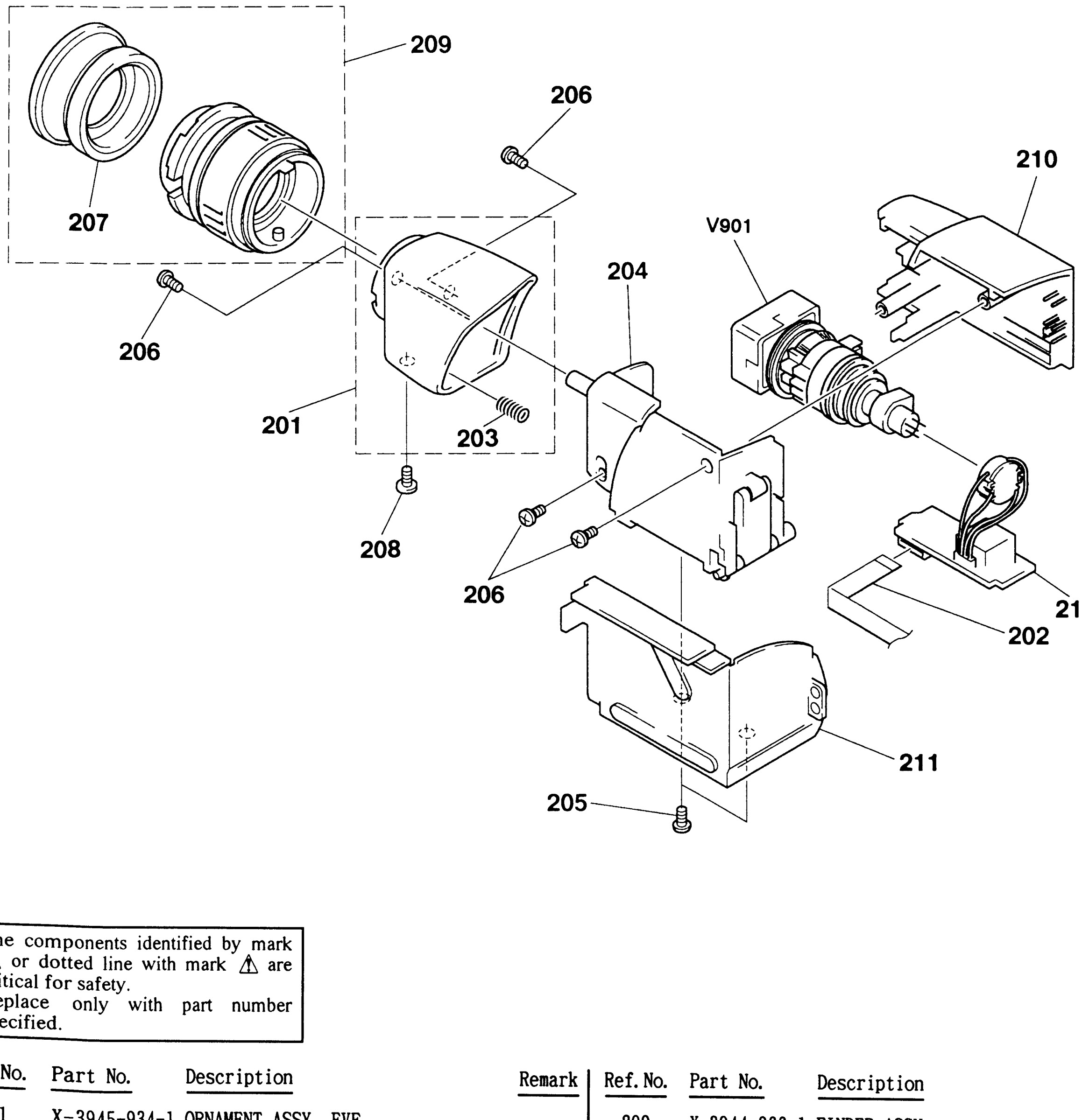
5-1-4. EVF BLOCK ASSEMBLY (COLOR) (TR710E/TR910E)


171
169
167
168
170
not supplied
166
162
165
164
163
ND801
161
LCD902
160
not supplied
159
158
157
155
156
154
153
173
155
155
not supplied
172
152
151
155

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
151	3-719-381-21	SCREW (M2X6)	
152	3-968-822-01	SLIDER (A)	
153	X-3946-289-1	CABINET ASSY, BASE (TR910E)	
153	X-3946-469-1	CABINET ASSY, BASE (TR710E)	
154	3-968-821-01	CABINET, BASE (TR910E)	
154	3-968-821-11	CABINET, BASE (TR710E)	
155	3-719-381-31	SCREW (M2X3)	
156	3-713-791-51	SCREW (M1.7X3.5), TAPPING, P2	
157	X-3945-936-1	CABINET (FRONT) ASSY, VF (TR910E)	
157	X-3946-468-1	CABINET (FRONT) ASSY, VF (TR710E)	
158	A-7072-622-A	VF-95 (VH4CP) BOARD, COMPLETE	
159	1-660-301-11	FP-430 FLEXIBLE BOARD	
160	3-968-820-01	CABINET (BOTTOM), VF	
161	A-7072-624-A	LB-45 (VH4CP) BOARD, COMPLETE	
* 162	3-969-923-01	CUSHION, BACK LIGHT	
163	X-3945-983-1	HOLDER ASSY, PRISM	
* 164	3-960-302-01	CUSHION (1), LCD	
* 165	3-969-924-01	CUSHION (Y), LCD	
166	X-3945-984-1	LENS ASSY, VF	
167	1-660-292-11	FP-394 FLEXIBLE BOARD	
168	A-7072-623-A	VF-96 (VH4CP) BOARD, COMPLETE	
* 169	3-969-176-01	COVER, SENSOR	
170	3-718-233-01	NUT, PLATE	
171	X-3945-937-1	CABINET (REAR) ASSY, VF	
172	X-3945-938-1	METAL ASSY, SLIDE SHEET	
173	3-968-823-01	LID, SLIDE (TR910E)	
173	3-968-823-11	LID, SLIDE (TR710E)	
LCD902	8-753-015-20	LCX005BK-1	
⚠ND801	1-517-414-21	FLUORESCENT TUBE (0.55 INCH)	

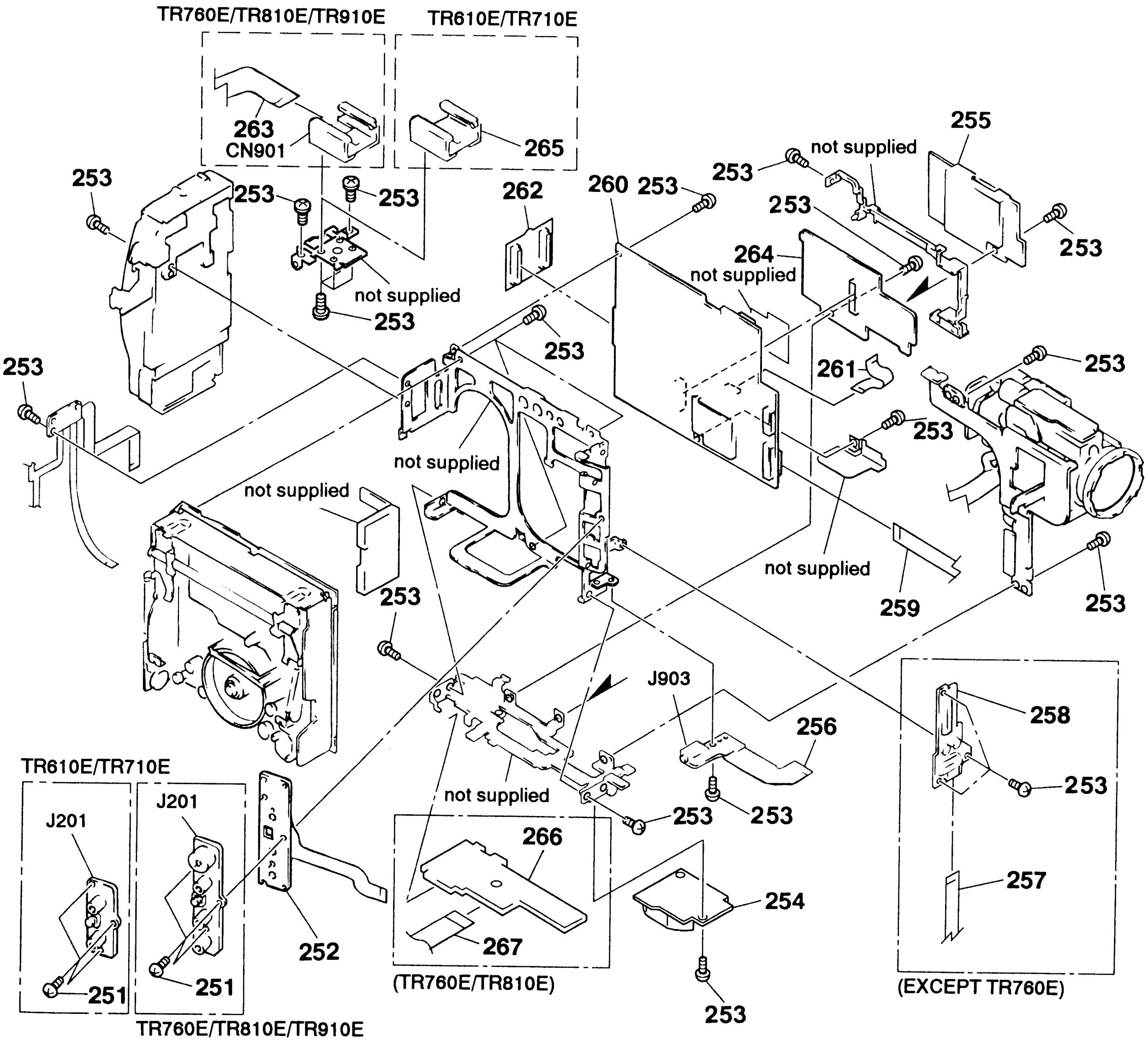
5-1-5. EVF BLOCK ASSEMBLY (B/W) (TR610E/TR760E/TR810E)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

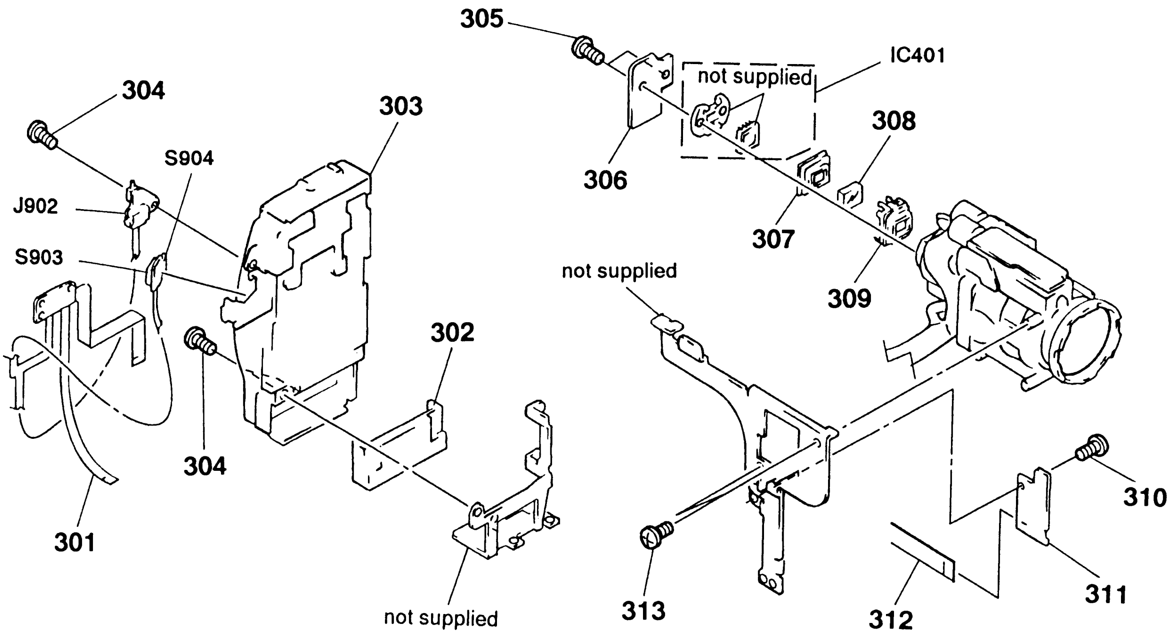
Ref. No.	Part No.	Description	Remark
201	X-3945-934-1	ORNAMENT ASSY, EVF	
202	1-661-547-11	FP-490 FLEXIBLE BOARD	
203	3-302-492-00	SPRING, COMPRESSION	
204	X-3945-933-1	CABINET (L) ASSY, EVF	
205	3-719-381-01	SCREW (M2X4)	
206	3-948-339-01	SCREW, TAPPING	
207	3-963-391-01	EYE CUP	
208	3-968-334-01	SCREW, F LOCK	
209	X-3944-966-1	FINDER ASSY	
210	3-968-798-01	CABINET (R), EVF (TR760E/TR810E)	
210	3-968-798-11	CABINET (R), EVF (TR610E)	
211	3-968-811-01	CABINET (B), BASE (TR760E/TR810E)	
211	3-968-811-11	CABINET (B), BASE (TR610E)	
212	A-7066-774-A	VF-99 (HP) BOARD, COMPLETE	
⚠V901	1-452-673-31	CRT ASSY (M01KXX90WB)	

5-1-6. MAIN BOARDS ASSEMBLY


TR760E/TR810E/TR910E
TR610E/TR710E
263
CN901
265
255
253
not supplied
262
260
253
264
not supplied
253
253
253
not supplied
253
253
261
253
not supplied
not supplied
253
not supplied
259
253
253
J903
256
258
253
TR610E/TR710E
J201
J201
not supplied
253
253
266
254
257
252
267
251
251
(TR760E/TR810E)
(EXCEPT TR760E)
253
TR760E/TR810E/TR910E

Ref. No.	Part No.	Description	Remark
251	3-719-381-01	SCREW (M2X4)	
252	1-660-278-11	FP-378 FLEXIBLE BOARD	
253	3-713-786-21	SCREW (M2X3)	
254	A-7072-546-A	LI-56 (HC) BOARD, COMPLETE	
255	A-7092-760-A	DD-86 (HC) BOARD, COMPLETE (TR910E)	
255	A-7092-766-A	DD-86 (HP) BOARD, COMPLETE (TR760E/TR810E)	
255	A-7092-806-A	DD-86 (MP) BOARD, COMPLETE (TR610E)	
255	A-7092-978-A	DD-86 (MCPE) BOARD, COMPLETE (TR710E)	
256	1-660-279-11	FP-379 FLEXIBLE BOARD	
257	1-660-277-11	FP-377 FLEXIBLE BOARD (EXCEPT TR760E)	
258	A-7072-551-A	SE-51 (HC) BOARD, COMPLETE (EXCEPT TR760E)	
259	1-660-302-11	FP-435 FLEXIBLE BOARD	
260	A-7092-765-A	VC-177 (HP) BOARD, COMPLETE (TR810E)	
260	A-7092-805-A	VC-177 (MP) BOARD, COMPLETE (TR610E:AEP, UK)	
260	A-7092-924-A	VC-177 (HLP) BOARD, COMPLETE (TR760E)	
260	A-7092-972-A	VC-177 (HCPE) BOARD, COMPLETE (TR910E)	
260	A-7092-976-A	VC-177 (MCPE) BOARD, COMPLETE (TR710E)	
260	A-7092-983-A	VC-177(MPE) BOARD, COMPLETE (TR610E:E)	
261	1-660-286-11	FP-387 FLEXIBLE BOARD	
262	1-660-283-11	FP-383 FLEXIBLE BOARD	
263	1-660-300-11	FP-426 FLEXIBLE BOARD (TR760E/TR810E/TR910E)	
264	A-7092-767-A	HI-39 (HP) BOARD, COMPLETE (TR760E/TR810E)	
264	A-7092-807-A	HI-39 (MP) BOARD, COMPLETE (TR610E)	
264	A-7092-977-A	HI-39 (MCPE) BOARD, COMPLETE (TR710E)	
264	A-7092-973-A	HI-39 (HCPE) BOARD, COMPLETE (TR910E)	
265	X-3946-197-1	SHOE ASSY (TR610E/TR710E)	
266	A-7072-559-A	EZ-21 (HP) BOARD, COMPLETE (TR760E/TR810E)	
267	1-660-298-11	FP-401 FLEXIBLE BOARD (TR760E/TR810E)	
CN901	1-774-867-11	CONNECTOR, EXTERNAL (HOT SHOE) 8P (TR760E/TR810E/TR910E)	
J201	1-537-747-21	TERMINAL BOARD (TR760E/TR810E/TR910E)	
J201	1-537-747-41	TERMINAL BOARD (TR610E/TR710E)	
J903	1-695-514-21	JACK (SMALL TYPE) 1P (HEADPHONES)	

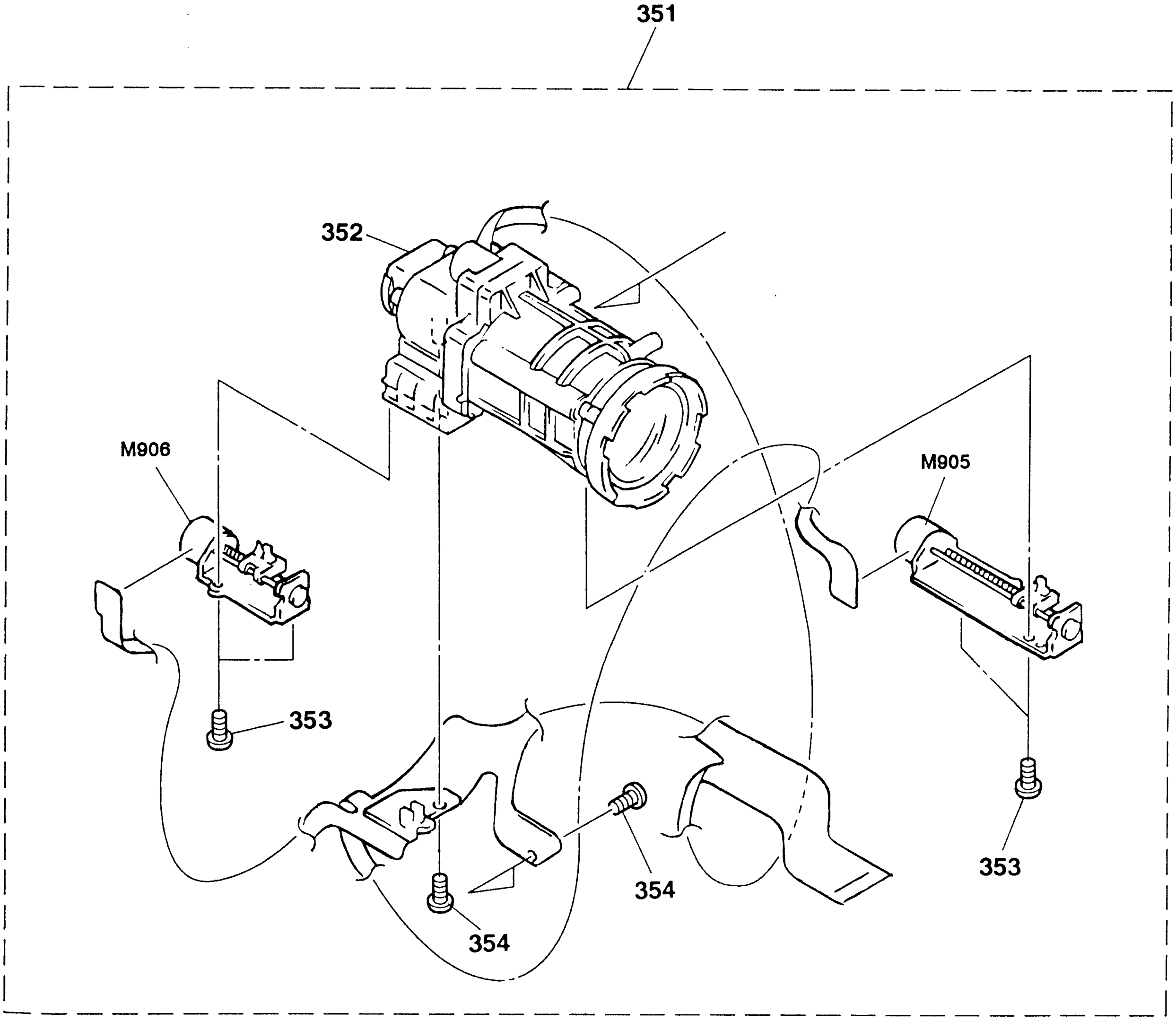
5-1-7. BATTERY PANEL ASSEMBLY



Be sure to read "Note on the CCD Imager replacement" on page 4–8 when changing the CCD imager.

Ref. No.	Part No.	Description	Remark
301	1-661-052-11	FP-457 FLEXIBLE BOARD	
302	1-694-076-11	TERMINAL BOARD, BATTERY	(TR610E/TR710E/TR910E)
302	1-694-076-21	TERMINAL BOARD, BATTERY	(TR760E/TR810E)
303	X-3945-929-1	PANEL ASSY, BATTERY	(TR760E/TR810E/TR910E)
303	X-3946-173-1	PANEL ASSY, BATTERY	(TR610E/TR710E)
304	3-719-381-01	SCREW (M2X4)	
305	3-318-203-11	SCREW (B1.7X6), TAPPING	
306	A-7072-549-A	CD-148 (HC) BOARD, COMPLETE	
307	3-961-192-11	RUBBER (FH), SEAL	
308	1-547-787-61	FILTER BLOCK, OPTICAL	
309	3-963-467-11	ADAPTOR (FH), CCD FITTING	
310	3-713-786-21	SCREW (M2X3)	
311	A-7072-552-A	AV-35 (HC) BOARD, COMPLETE	(TR910E)
311	A-7072-560-A	AV-35 (HP) BOARD, COMPLETE	(TR760E/TR810E)
311	A-7072-633-A	AV-35 (MP) BOARD, COMPLETE	(TR610E:AEP, UK)
311	A-7072-820-A	AV-35 (MCPE) BOARD, COMPLETE	(TR610E:E/TR710E)
312	1-660-531-11	FP-429 FLEXIBLE BOARD	
313	3-948-339-01	SCREW, TAPPING	
IC401	A-7030-638-A	CCD BLOCK ASSY (CCD IMAGER)	(079 SERVICE)(TR760E)
IC401	A-7030-659-A	CCD BLOCK ASSY (CCD IMAGER)	(071 SERVICE)(EXCEPT TR760E)
J902	1-565-276-21	JACK, ULTRA SMALL 1P (LANC)	
S903	1-571-315-11	SWITCH, KEY BOARD (START/STOP)	
S904	1-553-977-00	SWITCH, SLIDE (STANDBY, LOCK)	

5-1-8. LENS DEVICE (LSV-510A/J-N)


351
352
M906
M905
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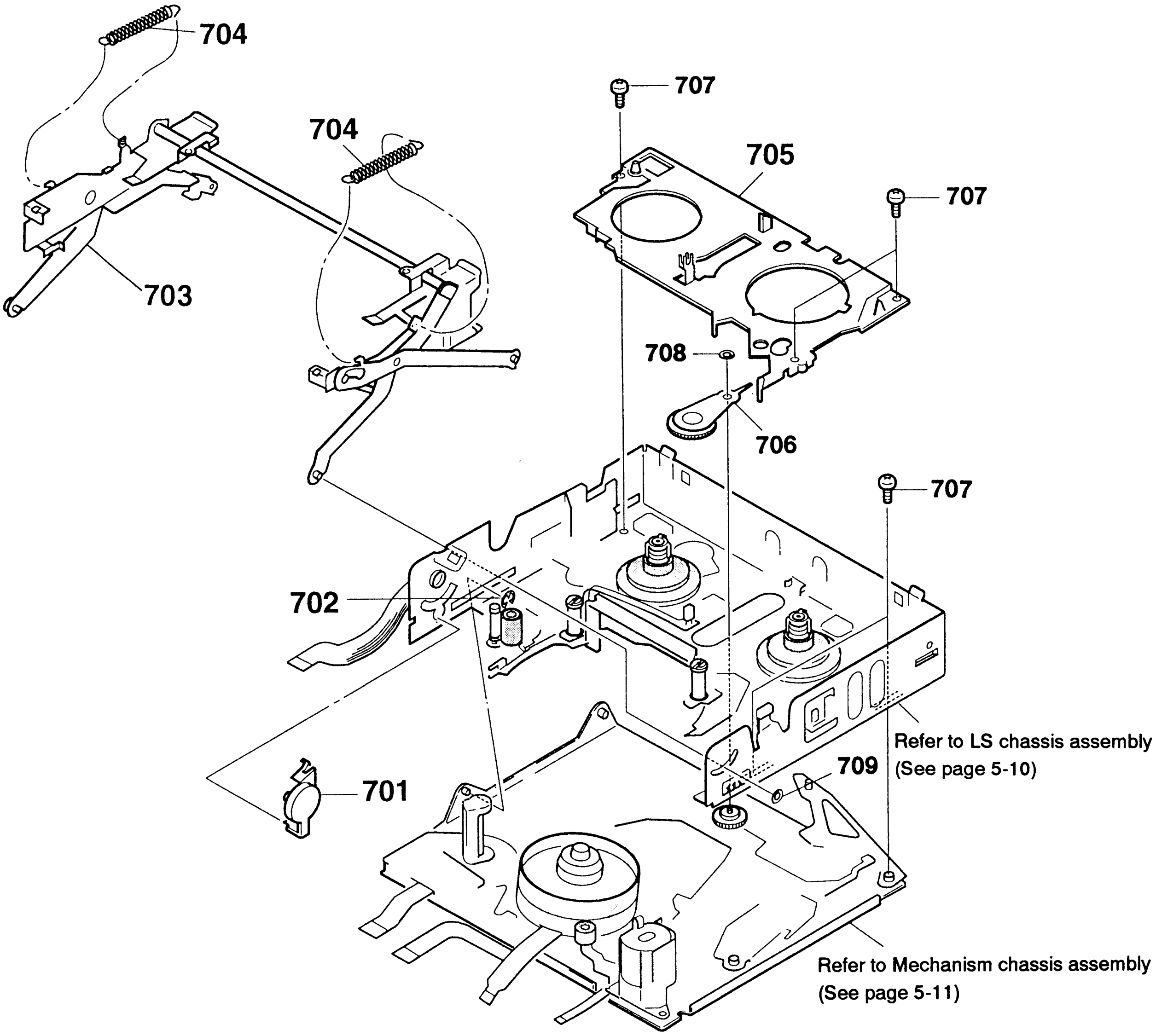
Ref. No.	Part No.	Description	Remark
351	8-848-710-01	DEVICE, LENS LSV-510A/J-N	
352	A-4910-808-A	DEVICE ASSY, LSV-510A (RP)	
353	3-713-791-41	SCREW (M1.7X5), TAPPING, P2	
354	3-708-302-01	SCREW (BT3 P1.7X4C)	
M905	1-698-760-01	MOTOR, FOCUS STEPPING	
M906	1-698-759-01	MOTOR, ZOOM STEPPING	

5-1-9. CASSETTE COMPARTMENT ASSEMBLY


704
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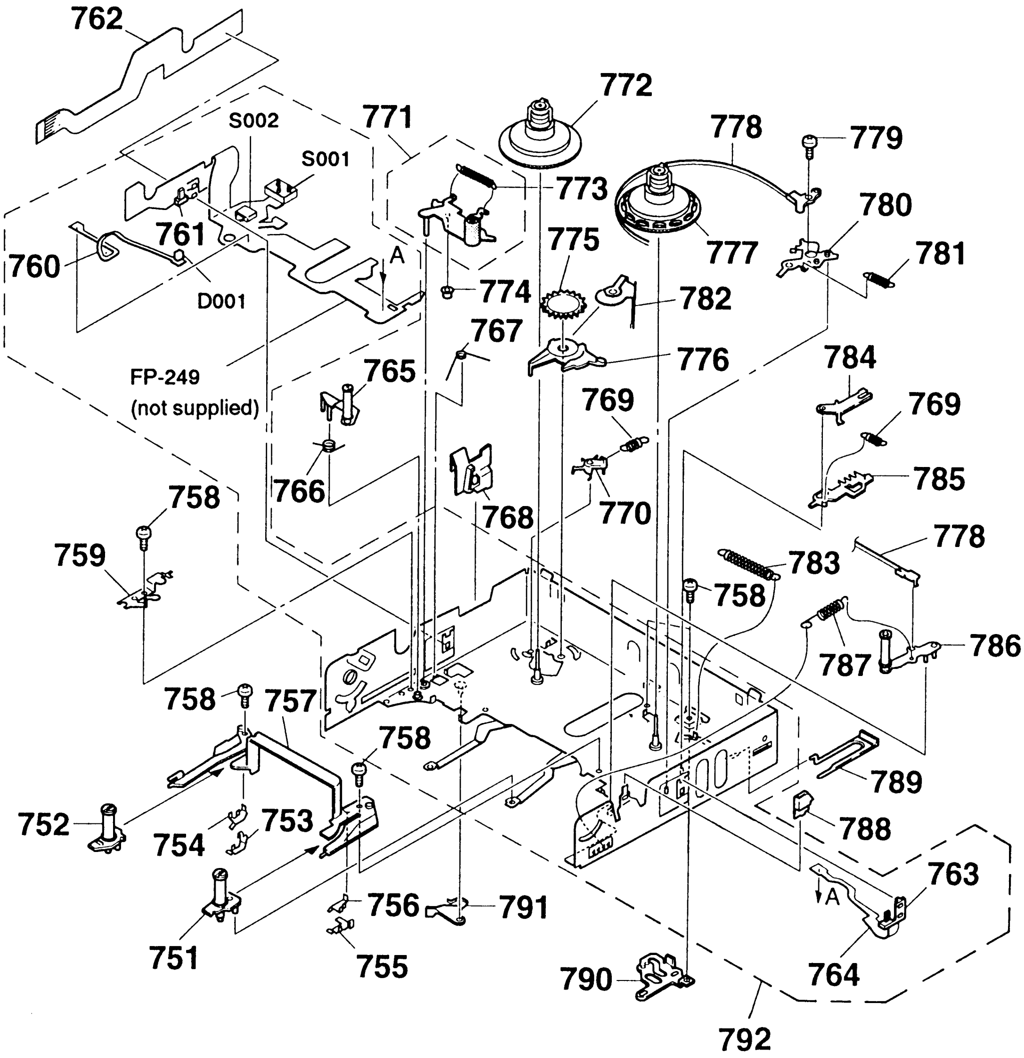
Refer to LS chassis assembly
(See page 5-10)
Refer to Mechanism chassis assembly
(See page 5-11)

Ref. No.	Part No.	Description	Remark
701	A-7040-421-A	DAMPER ASSY	
702	7-624-102-04	STOP RING 1.5, TYPE -E	
703	X-3945-400-1	CASSETTE COMPARTMENT ASSY	
704	3-965-587-01	SPRING, TENSION	
705	3-965-584-01	RETAINER, GOOSENECK	

Ref. No.	Part No.	Description	Remark
706	X-3945-399-1	GEAR ASSY, GOOSENECK	
707	3-947-503-01	SCREW (M1.4X2.5)	
708	3-331-007-21	WASHER	
709	3-727-176-01	WASHER, STOPPER	

5-1-10. LS CHASSIS ASSEMBLY


762
772
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S002
S001
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D001
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FP-249
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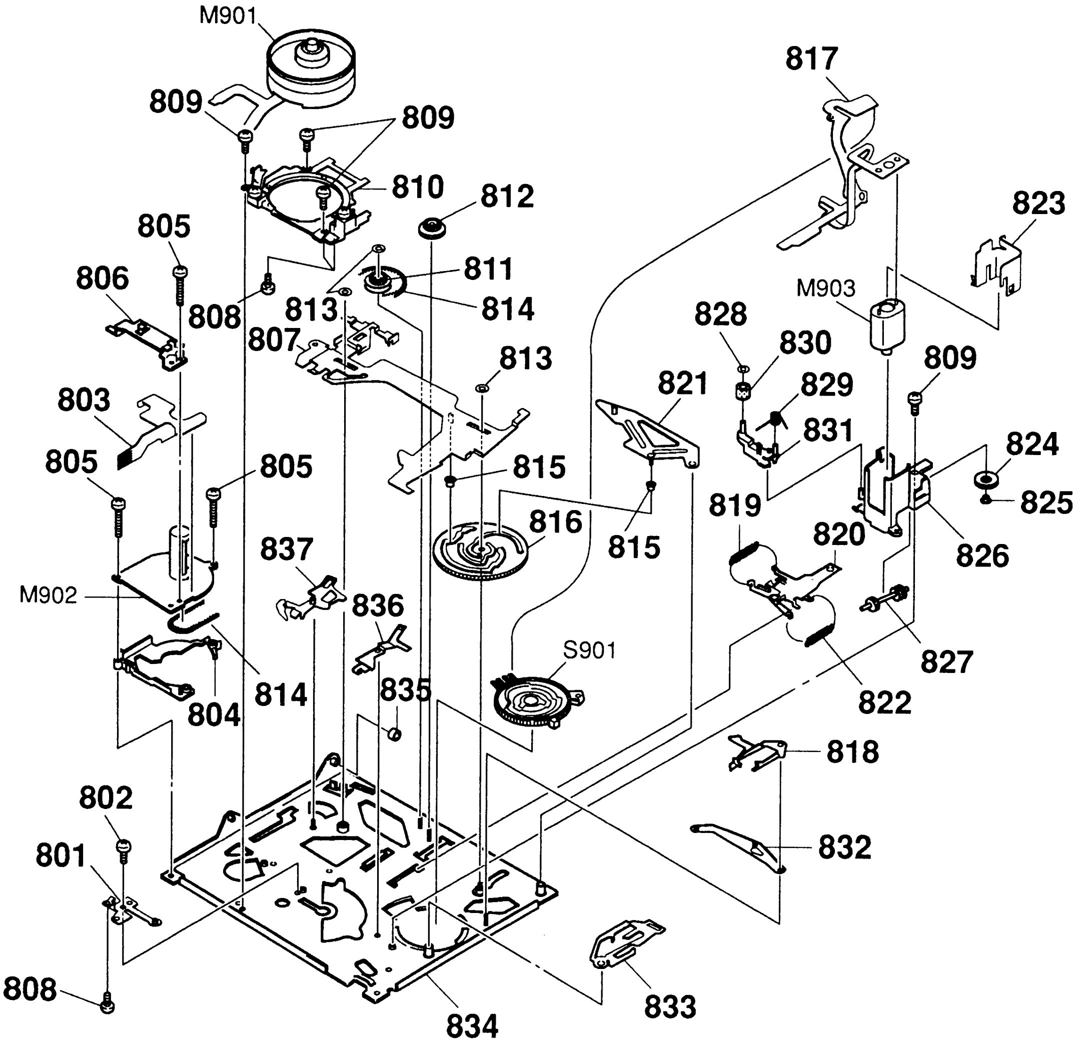
Ref. No.	Part No.	Description	Remark
751	A-7040-419-A	BASE (S) BLOCK ASSY, GUIDE	
752	A-7040-418-A	BASE (T) BLOCK ASSY, GUIDE	
753	3-965-559-01	STOPPER (T)	
754	3-965-557-01	STOPPER (T), GB	
755	3-965-558-01	STOPPER (S)	
756	3-965-556-01	STOPPER (S), GB	
757	3-965-553-01	RAIL, GUIDE	
758	3-947-503-01	SCREW (M1.4X2.5)	
759	3-965-573-01	RETAINER, TG4	
760	1-658-213-11	FP-355 FLEXIBLE BOARD	
761	3-965-552-01	HOLDER (T), SENSOR)	
762	1-657-786-11	FP-221 FLEXIBLE BOARD	
763	3-965-551-01	HOLDER (S), SENSOR)	
* 764	1-658-214-11	FP-356 FLEXIBLE BOARD	
765	A-7040-417-A	ARM BLOCK ASSY, TG4	
766	3-965-574-01	SPRING, TORSION	
767	3-965-575-01	SPRING (PINCH), TORSION	
768	3-965-568-01	GUIDE, LOCK	
769	3-965-562-01	SPRING (RATCHET), TENSION	
770	3-965-581-01	RATCHET, T	
771	X-3945-394-1	ARM ASSY, PINCH	
772	X-3945-398-1	DECK ASSY, REEL, T	
773	3-965-648-01	SPRING (PINCH), TENSION	
774	3-965-579-01	ROLLER, PINCH PRESS	
775	3-965-563-01	GEAR, T SOFT	
776	3-965-565-01	CLAW, T SOFT	
777	X-3945-397-1	DECK ASSY, REEL, S	
778	X-3945-396-1	BAND ASSY, TENSION REGULATOR	
779	3-945-756-01	SCREW (M1.4X3)	
780	3-965-583-01	ARM, RVS	
781	3-965-580-01	SPRING, TENSION	
782	3-966-384-01	SPRING, T SOFT	
783	3-965-578-01	SPRING, TENSION	
784	3-965-560-01	RATCHET, S	
785	3-965-561-01	PLATE, RELEASE, S RATCHET	
786	X-3945-395-1	ARM ASSY, TG1	
787	3-965-576-01	SPRING (TG1), TENSION	
788	3-965-567-01	LID OPEN	
789	3-965-566-01	COVER, LS GUIDE	
* 790	3-965-577-01	PLATE, CAM, LS	
791	3-965-569-01	ARM, EJ	
792	A-7040-427-A	CHASSIS (S1) ASSY, LS	
D001	8-719-988-42	DIODE GL453	
S001	1-692-614-11	SWITCH, PUSH (3 KEY) (HI8 MP, ME/MP, REC PROOF)	
S002	1-572-688-11	SWITCH, PUSH (1 KEY)(C.C. LOCK)	

5-1-11. MECHANISM CHASSIS ASSEMBLY


M901
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M903
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M902
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S901
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834

Ref. No.	Part No.	Description	Remark
801	3-965-525-01	GROUND, SHAFT	
802	3-965-550-02	SCREW (M1.7X1.6)	
803	1-657-785-11	FP-248 FLEXIBLE BOARD	
804	3-965-545-01	SPACER, CAPSTAN	
805	3-965-549-01	SCREW (M1.4 X 6.5)	
806	3-966-349-01	HOLDER, FLEXIBLE	
807	X-3945-387-1	SLIDER ASSY, M	
808	3-965-588-01	SCREW (M1.4)	
809	3-947-503-01	SCREW (M1.4X2.5)	
810	A-7040-416-A	BASE BLOCK ASSY, DRUM	
811	3-965-527-01	GEAR, CHANGE	
812	3-965-544-01	GEAR, RELAY	
813	3-331-007-21	WASHER	
814	3-965-546-01	BELT, TIMING	
815	3-965-533-01	ROLLER, LS	
816	3-965-528-01	GEAR, CAM	
817	1-657-784-11	FP-220 FLEXIBLE BOARD	
818	3-965-529-01	PLATE, REGULATOR, TENSION	
819	3-965-536-01	SPRING, TENSION	
820	X-3945-388-1	SLIDER ASSY, GL	
821	3-965-532-01	ARM, LS	
822	3-965-535-01	SPRING, TENSION	
823	3-965-542-01	SHIELD, MOTOR	
824	3-965-539-01	GEAR (A)	
825	3-965-538-01	SLEEVE, MOTOR HOLDER	
826	3-965-540-01	HOLDER, MOTOR	
827	3-965-541-01	SHAFT, WORM	
828	3-321-393-01	WASHER, STOPPER	
829	3-965-724-01	SPRING, TORSION	
830	A-7040-423-A	ROLLER BLOCK ASSY, HC	
831	X-3945-407-1	ARM ASSY, HC ROLLER	
832	3-965-531-01	ARM, GL	
833	3-965-530-01	PLATE (2), REGULATOR, TENSION	
834	X-3945-386-1	CHASSIS ASSY, MECHANICAL	
835	3-965-526-01	ROLLER, LS GUIDE	
836	3-965-547-01	ARM, HC DRIVING	
837	3-965-534-01	PLATE, PRESS, PINCH	
M901	A-7048-810-A	DRUM ASSY (DGH-0C4A-R)	
M902	8-835-531-01	MOTOR, DC SCE0601A (CAPSTAN)	
M903	X-3945-401-1	MOTOR ASSY, DC (LOADING)	
S901	1-762-436-15	SWITCH, ROTARY (ENCODER)	

AV-35

5-2. ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μA..., uPA...: μPA..., uPB...: μPB..., uPC...: μPC..., uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH
- Hong Kong model is abbreviated as HK.
- Tourist model is abbreviated as JE.

Ref. No.	Part No.	Description	Remark
*	A-7072-552-A	AV-35 (HC) BOARD, COMPLETE (TR910E)	
		**************************	
*	A-7072-560-A	AV-35 (HP) BOARD, COMPLETE	(TR760E/TR810E)
		**************************	
*	A-7072-633-A	AV-35 (MP) BOARD, COMPLETE	(TR610E:AEP, UK)
		**************************	
*	A-7072-820-A	AV-35 (MCPE) BOARD, COMPLETE	(TR610E:E/TR710E)
		****************************	
			(Ref. No. 3, 000 Series)
		< CAPACITOR >	
C251	1-110-569-11	TANTAL. CHIP 47uF 20% 6.3V	
C252	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(TR610E:AEP, UK/TR760E/TR810E)
C253	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(TR610E:AEP, UK/TR760E/TR810E)
C254	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C255	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(TR610E:AEP, UK/TR760E/TR810E)
C259	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(TR610E:E/TR710E/TR910E)
C263	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(TR610E:AEP, UK/TR760E/TR810E)
C264	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(TR610E:AEP, UK/TR760E/TR810E)
		< CONNECTOR >	
CN251	1-766-344-21	CONNECTOR, FFC/FPC 14P	
CN252	1-573-923-21	CONNECTOR, FFC/FPC (ZIF) 14P	
		< DIODE >	
D251	8-719-045-87	DIODE MA4Z082WA-(TXD).SO	
D252	8-719-045-87	DIODE MA4Z082WA-(TXD).SO	
D253	8-719-045-87	DIODE MA4Z082WA-(TXD).SO	
D254	8-719-045-87	DIODE MA4Z082WA-(TXD).SO	(TR760E/TR810E/TR910E)
D255	8-719-045-87	DIODE MA4Z082WA-(TXD).SO	(TR760E/TR810E/TR910E)
D256	8-719-420-14	DIODE MA8082-M	(TR760E/TR810E/TR910E)
		< COIL >	
L251	1-414-072-11	INDUCTOR 1uH	
L252	1-412-963-11	INDUCTOR 100uH	(TR610E:AEP, UK/TR760E/TR810E)
L253	1-412-963-11	INDUCTOR 100uH	(TR610E:AEP, UK/TR760E/TR810E)
L254	1-412-963-11	INDUCTOR 100uH	(TR610E:AEP, UK/TR760E/TR810E)
		< TRANSISTOR >	
Q251	8-729-101-07	TRANSISTOR 2SB798-DL	
Q252	8-729-034-65	TRANSISTOR 2SC4738-YGR-TE85L1	
		< RESISTOR >	
R251	1-216-138-00	METAL CHIP 3.3 5% 1/8W	
R252	1-216-830-11	METAL CHIP 5.6K 5% 1/16W	
R253	1-216-820-11	METAL CHIP 820 5% 1/16W	
R254	1-216-836-11	METAL CHIP 18K 5% 1/16W	
R259	1-216-864-11	METAL CHIP 0 5% 1/16W	
R261	1-216-864-11	METAL CHIP 0 5% 1/16W	
R262	1-216-864-11	METAL CHIP 0 5% 1/16W	
R263	1-216-864-11	METAL CHIP 0 5% 1/16W	
R264	1-216-864-11	METAL CHIP 0 5% 1/16W	
R255	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR610E:E/TR710E/TR910E)
R256	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR610E:E/TR710E/TR910E)
R257	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR760E/TR810E/TR910E)
R258	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR760E/TR810E/TR910E)
R260	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR610E:E/TR710E/TR910E)

Ref. No.	Part No.	Description	Remark
*	A-7072-549-A	CD-148 (HC) BOARD, COMPLETE	
		****************************	
		(IC401 is not included to the mounted board.)	
		(Ref. No. 3,000 Series)	
		< CAPACITOR >	
C401	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C405	1-107-686-11	TANTAL. CHIP 4.7uF 20% 16V	
C406	1-107-686-11	TANTAL. CHIP 4.7uF 20% 16V	
		< CONNECTOR >	
CN401	1-766-627-21	CONNECTOR, FFC/FPC 16P	
		< IC >	
IC401	A-7030-638-A	CCD BLOCK ASSY (CCD IMAGER)	(079 SERVICE)(TR760E)
IC401	A-7030-659-A	CCD BLOCK ASSY (CCD IMAGER)	(071 SERVICE)(EXCEPT TR760E)
		< COIL >	
L401	1-412-963-11	INDUCTOR 100uH	
		< TRANSISTOR >	
Q401	8-729-232-86	TRANSISTOR 2SK1875-BL/V	
Q402	8-729-117-73	TRANSISTOR 2SC4178-F14	
		< RESISTOR >	
R403	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R404	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R407	1-216-295-91	CONDUCTOR, CHIP (2012)	

Ref. No.	Part No.	Description	Remark
*	A-7092-760-A	DD-86 (HC) BOARD, COMPLETE (TR910E)	
		**************************	
*	A-7092-766-A	DD-86 (HP) BOARD, COMPLETE (TR760E/TR810E)	
		**************************	
*	A-7092-806-A	DD-86(MP) BOARD, COMPLETE (TR610E)	
		*************************	
*	A-7092-978-A	DD-86 (MCPE) BOARD, COMPLETE (TR710E)	
		****************************	
		(Ref. No. 20,000 Series)	
		< CAPACITOR >	
C1501	1-135-159-21	TANTALUM CHIP 10uF 10% 20V	
C1502	1-135-159-21	TANTALUM CHIP 10uF 10% 20V	
C1503	1-135-165-11	TANTAL. CHIP 33uF 20% 16V	
C1504	1-135-159-21	TANTALUM CHIP 10uF 10% 20V	(EXCEPT TR610E)
C1506	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1507	1-162-967-11	CERAMIC CHIP 0.0033uF 10% 50V	
C1508	1-162-960-11	CERAMIC CHIP 220PF 10% 50V	
C1509	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C1510	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C1511	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C1512	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C1513	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1514	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C1515	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C1519	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C1520	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C1522	1-162-967-11	CERAMIC CHIP 0.0033uF 10% 50V	
C1523	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C1524	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1525	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C1526	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C1529	1-165-178-11	CERAMIC CHIP 6.8uF 16V	
C1530	1-165-178-11	CERAMIC CHIP 6.8uF 16V	
C1531	1-165-178-11	CERAMIC CHIP 6.8uF 16V	
C1532	1-165-178-11	CERAMIC CHIP 6.8uF 16V	
C1533	1-165-178-11	CERAMIC CHIP 6.8uF 16V	
C1534	1-165-178-11	CERAMIC CHIP 6.8uF 16V	
C1535	1-135-216-11	TANTALUM CHIP 10uF 20% 10V	
C1536	1-135-216-11	TANTALUM CHIP 10uF 20% 10V	
C1537	1-135-216-11	TANTALUM CHIP 10uF 20% 10V	
C1538	1-164-505-11	CERAMIC CHIP 2.2uF 16V	
C1539	1-164-505-11	CERAMIC CHIP 2.2uF 16V	
C1540	1-135-214-21	TANTAL. CHIP 4.7uF 20% 20V	
C1541	1-113-985-11	TANTAL. CHIP 10uF 20% 20V	
C1542	1-165-178-11	CERAMIC CHIP 6.8uF 16V	
C1543	1-165-178-11	CERAMIC CHIP 6.8uF 16V	
C1544	1-104-752-11	TANTAL. CHIP 33uF 20% 6.3V	
C1545	1-135-216-11	TANTALUM CHIP 10uF 20% 10V	
C1546	1-135-216-11	TANTALUM CHIP 10uF 20% 10V	
C1547	1-135-216-11	TANTALUM CHIP 10uF 20% 10V	
C1548	1-162-968-11	CERAMIC CHIP 0.0047uF 10% 50V	(TR710E/TR910E)
C1549	1-164-361-11	CERAMIC CHIP 0.047uF 16V	(TR710E/TR910E)
C1550	1-164-489-11	CERAMIC CHIP 0.22uF 10% 16V	(TR760E/TR810E/TR910E)
C1551	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
		< CONNECTOR >	
CN1501	1-569-775-21	PIN, CONNECTOR 5P	
CN1503	1-691-542-21	CONNECTOR, BOARD TO BOARD 48P	
		< DIODE >	
D1501	8-719-027-77	DIODE MA796-TX	

Be sure to read "Note on the CCD Imager replacement" on page 4–8 when changing the CCD imager.

DD-86

Ref. No.	Part No.	Description	Remark
D1502	8-719-404-49	DIODE MA111	
D1503	8-719-420-14	DIODE MA8082-M	

< IC >

Ref. No.	Part No.	Description	Remark
IC1501	8-759-350-29	IC SN104213PM-T6	

< COIL >

Ref. No.	Part No.	Description	Remark
L1501	1-424-653-11	COIL, CHOKE 10uH	
L1502	1-424-653-11	COIL, CHOKE 10uH	
L1503	1-424-653-11	COIL, CHOKE 10uH	
L1504	1-424-674-11	COIL, CHOKE 22uH	
L1505	1-424-675-11	COIL, CHOKE 33uH	
L1506	1-424-674-11	COIL, CHOKE 22uH	
L1507	1-424-674-11	COIL, CHOKE 22uH	
L1508	1-412-056-11	INDUCTOR CHIP 4.7uH	
L1509	1-412-056-11	INDUCTOR CHIP 4.7uH	
L1510	1-412-056-11	INDUCTOR CHIP 4.7uH	
L1511	1-412-066-21	INDUCTOR CHIP 220uH	
L1512	1-424-674-11	COIL, CHOKE 22uH	
L1513	1-412-060-11	INDUCTOR CHIP 22uH	
L1514	1-412-056-11	INDUCTOR CHIP 4.7uH	
L1515	1-412-060-11	INDUCTOR CHIP 22uH	
L1516	1-412-056-11	INDUCTOR CHIP 4.7uH	

< IC LINK >

Ref. No.	Part No.	Description	Remark
⚠PS1501	1-533-711-21	LINK, IC (SMD)(1.25A)	
⚠PS1502	1-533-711-21	LINK, IC (SMD)(1.25A)	
⚠PS1503	1-533-711-21	LINK, IC (SMD)(1.25A)	
⚠PS1504	1-533-711-21	LINK, IC (SMD)(1.25A)	(EXCEPT TR610E)

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q1501	8-729-033-14	TRANSISTOR FP107-TL	
Q1502	8-729-033-14	TRANSISTOR FP107-TL	
Q1503	8-729-033-14	TRANSISTOR FP107-TL	
Q1504	8-729-033-14	TRANSISTOR FP107-TL	
Q1505	8-729-030-75	TRANSISTOR 2SK2316-TD	
Q1506	8-729-804-41	TRANSISTOR 2SB1122-S	
Q1507	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q1508	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q1509	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1510	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1511	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1512	8-729-033-14	TRANSISTOR FP107-TL	
Q1513	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	(TR710E/TR910E)
Q1514	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	(TR710E/TR910E)
Q1515	8-729-015-60	TRANSISTOR 2SJ316-TD	(TR710E/TR910E)
Q1516	8-729-037-61	TRANSISTOR UN9113J-(TX).SO	(TR710E/TR910E)
Q1517	8-729-015-60	TRANSISTOR 2SJ316-TD	(TR710E/TR910E)
Q1518	8-729-429-18	TRANSISTOR UN9213	(TR760E/TR810E/TR910E)
Q1519	8-729-030-75	TRANSISTOR 2SK2316-TD	(TR760E/TR810E/TR910E)
Q1520	8-729-037-61	TRANSISTOR UN9113J-(TX).SO	(TR710E/TR910E)
Q1521	8-729-429-18	TRANSISTOR UN9213	(TR760E/TR810E/TR910E)

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R1501	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R1503	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R1504	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R1505	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R1506	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R1507	1-216-836-11	METAL CHIP 18K 5% 1/16W	
R1508	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R1509	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R1512	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R1513	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R1514	1-216-835-11	METAL CHIP 15K 5% 1/16W	
R1515	1-216-834-11	METAL CHIP 12K 5% 1/16W	
R1516	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R1517	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R1519	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R1520	1-216-834-11	METAL CHIP 12K 5% 1/16W	
R1521	1-216-835-11	METAL CHIP 15K 5% 1/16W	
R1522	1-216-864-11	METAL CHIP 0 5% 1/16W	
R1523	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R1524	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R1525	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R1526	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R1527	1-218-891-11	METAL CHIP 68K 0.50% 1/16W	
R1528	1-218-879-11	METAL CHIP 22K 0.50% 1/16W	
R1529	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R1530	1-218-877-11	METAL CHIP 18K 0.50% 1/16W	
R1531	1-216-845-11	METAL CHIP 100K 5% 1/16W	(TR710E/TR910E)
R1532	1-216-857-11	METAL CHIP 1M 5% 1/16W	(TR710E/TR910E)
R1533	1-216-845-11	METAL CHIP 100K 5% 1/16W	(TR710E/TR910E)
R1534	1-216-855-11	METAL CHIP 680K 5% 1/16W	(TR710E/TR910E)
R1535	1-216-857-11	METAL CHIP 1M 5% 1/16W	(TR710E/TR910E)
R1536	1-216-845-11	METAL CHIP 100K 5% 1/16W	(TR760E/TR810E/TR910E)
R1537	1-216-851-11	METAL CHIP 330K 5% 1/16W	(TR760E/TR810E/TR910E)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
R1538	1-216-857-11	METAL CHIP 1M 5% 1/16W	(TR760E/TR810E/TR910E)
R1539	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR610E)
R1543	1-216-845-11	METAL CHIP 100K 5% 1/16W	(TR760E/TR810E/TR910E)
R1544	1-216-857-11	METAL CHIP 1M 5% 1/16W	(TR710E/TR910E)
		< TRANSFORMER >	
T1501	1-426-938-11	TRANSFORMER, DC/DC CONVERTER	

Ref. No.	Part No.	Description	Remark
*	A-7072-559-A	EZ-21 (HP) BOARD, COMPLETE	(TR760E/TR810E)
		**************************	
			(Ref. No. 6,000 Series)
		< CAPACITOR >	
C201	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
		< CONNECTOR >	
CN201	1-537-439-11	TARMINAL BOARD, CONNECTOR	
CN202	1-569-775-21	PIN, CONNECTOR 5P	
CN203	1-580-057-11	PIN, CONNECTOR 4P	
CN204	1-774-641-21	CONNECTOR, FFC/FPC 18P	
		< DIODE >	
D201	8-719-045-87	DIODE MA4Z082WA-(TXD).SO	
D202	8-719-045-87	DIODE MA4Z082WA-(TXD).SO	
D203	8-719-045-87	DIODE MA4Z082WA-(TXD).SO	
D204	8-719-045-87	DIODE MA4Z082WA-(TXD).SO	
D205	8-719-045-87	DIODE MA4Z082WA-(TXD).SO	
D206	8-719-045-87	DIODE MA4Z082WA-(TXD).SO	
D207	8-719-045-87	DIODE MA4Z082WA-(TXD).SO	
D209	8-719-404-49	DIODE MA111	
D210	8-719-404-49	DIODE MA111	
D211	8-719-404-49	DIODE MA111	
D212	8-719-421-27	DIODE MA728	
D213	8-719-421-27	DIODE MA728	
D216	8-719-404-49	DIODE MA111	
D217	8-719-404-49	DIODE MA111	
D220	8-719-404-49	DIODE MA111	
		< IC >	
IC201	8-759-510-73	IC BA10393F-E2	
		< TRANSISTOR >	
Q201	8-729-024-24	TRANSISTOR 2SK2154-TL	
Q202	8-729-024-24	TRANSISTOR 2SK2154-TL	
Q203	8-729-429-18	TRANSISTOR UN9213	
Q204	8-729-429-18	TRANSISTOR UN9213	
Q205	8-729-037-71	TRANSISTOR UN9210J-(TX).SO	
Q206	8-729-429-18	TRANSISTOR UN9213	
Q207	8-729-429-18	TRANSISTOR UN9213	
Q208	8-729-429-18	TRANSISTOR UN9213	
Q211	8-729-428-88	TRANSISTOR UN9113	
Q215	8-729-428-88	TRANSISTOR UN9113	
Q216	8-729-428-88	TRANSISTOR UN9113	
Q217	8-729-037-63	TRANSISTOR UN9115J-(TX).SO	
Q218	8-729-037-71	TRANSISTOR UN9210J-(TX).SO	
Q219	8-729-037-71	TRANSISTOR UN9210J-(TX).SO	
		< RESISTOR >	
R201	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R202	1-216-813-11	METAL CHIP 220 5% 1/16W	
R203	1-216-813-11	METAL CHIP 220 5% 1/16W	
R205	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R207	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R208	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R209	1-216-844-11	METAL CHIP 82K 5% 1/16W	
R210	1-216-835-11	METAL CHIP 15K 5% 1/16W	
R211	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R212	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R213	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R214	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R215	1-216-809-11	METAL CHIP 100 5% 1/16W	
R216	1-216-851-11	METAL CHIP 330K 5% 1/16W	
R217	1-216-851-11	METAL CHIP 330K 5% 1/16W	
R218	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
R219	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R220	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R221	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R224	1-216-864-11	METAL CHIP 0 5% 1/16W	
R226	1-216-864-11	METAL CHIP 0 5% 1/16W	
R227	1-216-864-11	METAL CHIP 0 5% 1/16W	

FK-66 FP-249 (356) FP-355

Ref. No.	Part No.	Description	Remark
*	A-7072-556-A	FK-66 (HCU) BOARD, COMPLETE	(TR610E:E/TR710E/TR910E)
		***************************	
*	A-7072-563-A	FK-66 (HP) BOARD, COMPLETE (TR810E)	
		**************************	
*	A-7072-636-A	FK-66 (MP) BOARD, COMPLETE	(TR610E:AEP, UK)
		**************************	
*	A-7072-828-A	FK-66 (HLP) BOARD, COMPLETE (TR760E)	
		***************************	
			(Ref. No. 3,000 Series)
		< CONNECTOR >	
CN151	1-573-917-11	CONNECTOR, FFC/FPC (ZIF) 8P	
		< DIODE >	
D151	8-719-057-99	DIODE SML-211YT-T86 (STOP)	
D152	8-719-057-99	DIODE SML-211YT-T86 (REW)	
D153	8-719-057-99	DIODE SML-211YT-T86 (PLAY)	
D154	8-719-057-99	DIODE SML-211YT-T86 (FF)	
D155	8-719-057-99	DIODE SML-211YT-T86 (PAUSE)	
D156	8-719-057-99	DIODE SML-211YT-T86 (REC)	(TR610E:E/TR710E/TR910E)
D157	8-719-057-99	DIODE SML-211YT-T86 (REC)	(TR610E:E/TR710E/TR910E)
D158	8-719-057-99	DIODE SML-211YT-T86 (CHARGE)	(TR760E/TR810E)
		< RESISTOR >	
R151	1-216-824-11	METAL CHIP 1.8K 5% 1/16W	
R152	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
R153	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R154	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R155	1-216-838-11	METAL CHIP 27K 5% 1/16W	
R156	1-216-824-11	METAL CHIP 1.8K 5% 1/16W	
R157	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
R159	1-216-812-11	METAL CHIP 180 5% 1/16W	
R160	1-216-812-11	METAL CHIP 180 5% 1/16W	(TR610E:E/TR710E/TR910E)
R161	1-216-817-11	METAL CHIP 470 5% 1/16W	
R162	1-216-812-11	METAL CHIP 180 5% 1/16W	
R163	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R164	1-216-833-11	METAL CHIP 10K 5% 1/16W	
		< VARIABLE RESISTOR >	
RV151	1-225-224-11	RES, VAR (ZOOM) 10K (EXCEPT TR760E)	
RV151	1-225-224-21	RES, VAR (ZOOM) 10K (TR760E)	
		< SWITCH >	
S151	1-692-112-11	SWITCH, TACTIL (STOP ■)	
S152	1-692-112-11	SWITCH, TACTIL (REW ◀◀)	
S153	1-692-112-11	SWITCH, TACTIL (PLAY ▷)	
S154	1-692-112-11	SWITCH, TACTIL (FF ▶▶)	
S155	1-692-112-11	SWITCH, TACTIL (PAUSE ❚❚)	
S156	1-692-112-11	SWITCH, TACTIL (REC ●)	(TR610E:E/TR710E/TR910E)
S157	1-692-112-11	SWITCH, TACTIL (REC ●)	(TR610E:E/TR710E/TR910E)
S158	1-692-112-11	SWITCH, TACTIL (EDIT SEARCH +)	
S159	1-692-112-11	SWITCH, TACTIL (EDIT SEARCH -)	

Ref. No.	Part No.	Description	Remark
		FP-249 BOARD, COMPLETE (not supplied)	
		***	
			(Ref. No. 8,000 Series)
	1-658-214-11	FP-356 FLEXIBLE BOARD	
	3-965-551-01	HOLDER (S), SENSOR	
	3-965-552-01	HOLDER (T), SENSOR	
		< HALL ELEMENT >	
H001	8-719-033-37	ELEMENT, HALL HW-105C	
H002	8-719-033-37	ELEMENT, HALL HW-105C	
		< TRANSISTOR >	
Q001	8-729-907-25	TRANSISTOR PT4850F	
Q002	8-729-907-25	TRANSISTOR PT4850F	
		< SWITCH >	
S001	1-692-614-11	SWITCH, PUSH (3 KEY)	(Hi8 MP, ME/MP, REC PROOF)
S002	1-572-688-11	SWITCH, PUSH (1 KEY)(C.C. LOCK)	

Ref. No.	Part No.	Description	Remark
	1-658-213-11	FP-355 FLEXIBLE BOARD	
		*********************	
			(Ref. No. 8,000 Series)
		< DIODE >	
D001	8-719-988-42	DIODE GL453S	

Ref. No.	Part No.	Description	Remark
*	A-7092-767-A	HI-39 (HP) BOARD, COMPLETE	(TR760E/TR810E)
		***************************	
*	A-7092-807-A	HI-39 (MP) BOARD, COMPLETE (TR610E)	
		***************************	
*	A-7092-973-A	HI-39 (HCPE) BOARD, COMPLETE (TR910E)	
		*****************************	
*	A-7092-977-A	HI-39 (MCPE) BOARD, COMPLETE (TR710E)	
		*****************************	
			(Ref. No. 20,000 Series)
		< BUZZER >	
BZ501	1-529-104-11	BUZZER, PIEZOELECTRIC	
		< CAPACITOR >	
C501	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1951	1-135-091-00	TANTALUM CHIP 1uF 20% 16V	
C1952	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1955	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1956	1-104-847-11	TANTAL. CHIP 22uF 20% 4V	
C1957	1-104-847-11	TANTAL. CHIP 22uF 20% 4V	
C1958	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1959	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C1961	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1965	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1968	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1970	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1973	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1974	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1976	1-162-917-11	CERAMIC CHIP 15PF 5% 50V	
C1977	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1978	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1980	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1981	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1982	1-162-919-11	CERAMIC CHIP 22PF 5% 50V	
C1984	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1986	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1987	1-104-851-11	TANTAL. CHIP 10uF 20% 10V	
C1988	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1989	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1990	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C2101	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	(TR760E/TR810E/TR910E)
C2102	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(TR760E/TR810E/TR910E)
C2103	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(TR760E/TR810E/TR910E)
C2105	1-162-924-11	CERAMIC CHIP 56PF 5% 50V	(TR760E/TR810E/TR910E)
C2106	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(TR760E/TR810E/TR910E)
C2107	1-162-923-11	CERAMIC CHIP 47PF 5% 50V	(TR760E/TR810E/TR910E)
C2108	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V	(TR760E/TR810E/TR910E)
C2109	1-162-925-11	CERAMIC CHIP 68PF 5% 50V	(TR760E/TR810E/TR910E)
C2110	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(TR760E/TR810E/TR910E)
C2111	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	(TR760E/TR810E/TR910E)
C2112	1-164-156-11	CERAMIC CHIP 0.1uF 25V	(TR760E/TR810E/TR910E)
C2113	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	(TR760E/TR810E/TR910E)
C2114	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(TR760E/TR810E/TR910E)
C2115	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(TR760E/TR810E/TR910E)
C2116	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	(TR760E/TR810E/TR910E)
C2117	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(TR760E/TR810E/TR910E)
C2118	1-164-156-11	CERAMIC CHIP 0.1uF 25V	(TR760E/TR810E/TR910E)
		< CONNECTOR >	
CN501	1-774-602-41	CONNECTOR, BOARD TO BOARD 60P	
CN502	1-766-354-21	CONNECTOR, FFC/FPC 24P	
CN503	1-766-627-21	CONNECTOR, FFC/FPC 16P	
* CN504	1-770-619-11	PIN, CONNECTOR 2P	
		< DIODE >	
D501	8-719-045-87	DIODE MA4Z082WA-(TXD).SO	
D502	8-719-045-87	DIODE MA4Z082WA-(TXD).SO	
D503	8-719-045-87	DIODE MA4Z082WA-(TXD).SO	
D504	8-719-045-87	DIODE MA4Z082WA-(TXD).SO	
D511	8-719-404-49	DIODE MA111	
⚠D512	8-719-420-51	DIODE MA729	
D514	8-719-404-49	DIODE MA111	
D515	8-719-404-49	DIODE MA111	
D516	8-719-404-49	DIODE MA111	
D1951	8-719-404-49	DIODE MA111	
D1952	8-719-404-49	DIODE MA111	
D1953	8-719-404-49	DIODE MA111	
D1954	8-719-420-51	DIODE MA729	
D1955	8-719-420-51	DIODE MA729	
D1956	8-719-421-27	DIODE MA728	
D1957	8-719-404-49	DIODE MA111	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

HI-39

Ref. No.	Part No.	Description	Remark
		< FERRITE BEAD >	
FB501	1-414-228-11	INDUCTOR, FERRITE BEAD	
FB502	1-414-228-11	INDUCTOR, FERRITE BEAD	
FB503	1-414-228-11	INDUCTOR, FERRITE BEAD	
		< IC >	
IC128	8-759-421-52	IC MB87B110CPFV-G-BND-ER	(TR760E/TR810E/TR910E)
IC1951	8-759-298-10	IC S-8423NFS-T2	
IC1952	8-759-399-21	IC S579107PZ-TEB	(TR710E/TR910E)
IC1952	8-759-426-65	IC S579110PZ-TEB	(TR610E/TR760E/TR810E)
IC1954	8-759-355-95	IC S-29L253AFS-TB	
IC1955	8-759-059-05	IC TL1596CPW-ELM1000	
		< COIL >	
L1951	1-414-078-11	INDUCTOR 10uH	
L2101	1-414-078-11	INDUCTOR 10uH	(TR760E/TR810E/TR910E)
L2102	1-412-950-11	INDUCTOR 8.2uH	(TR760E/TR810E/TR910E)
L2103	1-414-078-11	INDUCTOR 10uH	(TR760E/TR810E/TR910E)
L2104	1-414-078-11	INDUCTOR 10uH	(TR760E/TR810E/TR910E)
L2105	1-410-658-31	INDUCTOR CHIP 220uH	(TR760E/TR810E/TR910E)
		< TRANSISTOR >	
Q501	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q502	8-729-428-88	TRANSISTOR UN9113	(TR760E/TR810E/TR910E)
Q503	8-729-807-86	TRANSISTOR 2SB1295-UL5	
Q504	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q505	8-729-807-86	TRANSISTOR 2SB1295-UL5	
Q506	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q507	8-729-429-18	TRANSISTOR UN9213	(TR610E/TR760E/TR810E)
Q508	8-729-037-71	TRANSISTOR UN9210J-(TX).SO	
Q509	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1951	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1952	8-729-015-66	TRANSISTOR 2SC4919-TL	
Q1953	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1954	8-729-032-00	TRANSISTOR 2SJ381-TD	
Q1955	8-729-429-14	TRANSISTOR UN9211-(TXE)	(TR710E/TR760E/TR910E)
Q1959	8-729-032-62	TRANSISTOR 2SJ347-TE85L	
Q1963	8-729-024-48	TRANSISTOR 2SK1830-TE85L	
Q2101	8-729-425-64	TRANSISTOR 2SD2216Q	(TR760E/TR810E/TR910E)
Q2102	8-729-425-64	TRANSISTOR 2SD2216Q	(TR760E/TR810E/TR910E)
Q2103	8-729-425-64	TRANSISTOR 2SD2216Q	(TR760E/TR810E/TR910E)

Ref. No.	Part No.	Description	Remark
Q2104	8-729-037-59	TRANSISTOR UN9111J-(TX).SO	(TR710E/TR760E/TR810E)
Q2105	8-729-425-64	TRANSISTOR 2SD2216Q	(TR760E/TR810E/TR910E)
		< RESISTOR >	
R510	1-216-864-11	METAL CHIP 0 5% 1/16W	
R511	1-216-864-11	METAL CHIP 0 5% 1/16W	
R512	1-216-864-11	METAL CHIP 0 5% 1/16W	
R513	1-216-864-11	METAL CHIP 0 5% 1/16W	
R514	1-216-864-11	METAL CHIP 0 5% 1/16W	
R515	1-216-864-11	METAL CHIP 0 5% 1/16W	
R516	1-216-864-11	METAL CHIP 0 5% 1/16W	
R518	1-216-817-11	METAL CHIP 470 5% 1/16W	(TR760E/TR810E/TR910E)
R519	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R520	1-216-819-11	METAL CHIP 680 5% 1/16W	(TR610E/TR760E/TR810E)
R521	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R522	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R523	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R524	1-216-819-11	METAL CHIP 680 5% 1/16W	
R525	1-216-819-11	METAL CHIP 680 5% 1/16W	
R526	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R527	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R528	1-216-837-11	METAL CHIP 22K 5% 1/16W	(TR910E)
R528	1-216-842-11	METAL CHIP 56K 5% 1/16W	(TR760E/TR810E)
R528	1-216-843-11	METAL CHIP 68K 5% 1/16W	(TR710E)
R528	1-216-845-11	METAL CHIP 100K 5% 1/16W	(TR610E)
R529	1-216-841-11	METAL CHIP 47K 5% 1/16W	(TR610E)
R529	1-216-842-11	METAL CHIP 56K 5% 1/16W	(TR710E)
R529	1-216-843-11	METAL CHIP 68K 5% 1/16W	(TR760E/TR810E)
R529	1-216-845-11	METAL CHIP 100K 5% 1/16W	(TR910E)
R530	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R531	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R533	1-216-845-11	METAL CHIP 100K 5% 1/16W	(TR610E/TR710E)
R535	1-216-845-11	METAL CHIP 100K 5% 1/16W	(TR610E/TR710E)
R536	1-216-845-11	METAL CHIP 100K 5% 1/16W	(TR610E/TR710E)
R537	1-216-845-11	METAL CHIP 100K 5% 1/16W	(TR610E/TR710E)
R538	1-216-845-11	METAL CHIP 100K 5% 1/16W	(TR610E/TR710E)
R539	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R540	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R541	1-216-838-11	METAL CHIP 27K 5% 1/16W	
R542	1-216-833-11	METAL CHIP 10K 5% 1/16W	

Ref.No.	Part No.	Description				Remark
R543	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R545	1-216-864-11	METAL CHIP	0	5%	1/16W	
R1953	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R1954	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R1955	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R1956	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R1957	1-216-813-11	METAL CHIP	220	5%	1/16W	
R1958	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1959	1-216-295-91	CONDUCTOR, CHIP (2012)				
R1960	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1962	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R1963	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R1964	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R1965	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R1966	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R1967	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R1969	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R1970	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R1972	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R1973	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1974	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1975	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1976	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1977	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1978	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1979	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R1980	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R1981	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R1982	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R1983	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R1984	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R1985	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R1986	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R1987	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R1988	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R1991	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R1992	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R1993	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R1994	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R1995	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1996	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1997	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1998	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1999	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R2000	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R2001	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R2003	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R2004	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R2005	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R2006	1-216-821-11	METAL CHIP	1K	5%	1/16W	

Ref.No.	Part No.	Description				Remark
R2007	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R2008	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R2011	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R2012	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R2013	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R2015	1-219-570-11	METAL GLAZE	10M	5%	1/16W	
R2017	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R2018	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R2019	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R2020	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R2021	1-216-849-11	METAL CHIP	220K	5%	1/16W	
R2022	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R2023	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R2024	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R2025	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R2026	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R2027	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R2028	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R2029	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R2030	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R2031	1-216-817-11	METAL CHIP	470	5%	1/16W	
R2032	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R2036	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R2037	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R2038	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R2039	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R2040	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R2041	1-216-864-11	METAL CHIP	0	5%	1/16W	
R2044	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R2046	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R2047	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R2048	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R2049	1-216-826-11	METAL CHIP	2.7K	5%	1/16W	
R2101	1-216-838-11	METAL CHIP	27K	5%	1/16W	(TR760E/TR810E/TR910E)
R2102	1-216-839-11	METAL CHIP	33K	5%	1/16W	(TR760E/TR810E/TR910E)
R2103	1-216-819-11	METAL CHIP	680	5%	1/16W	(TR760E/TR810E/TR910E)
R2104	1-216-821-11	METAL CHIP	1K	5%	1/16W	(TR760E/TR810E/TR910E)
R2105	1-216-812-11	METAL CHIP	180	5%	1/16W	(TR760E/TR810E/TR910E)
R2108	1-216-824-11	METAL CHIP	1.8K	5%	1/16W	(TR760E/TR810E/TR910E)
R2109	1-216-821-11	METAL CHIP	1K	5%	1/16W	(TR760E/TR810E/TR910E)
R2110	1-216-816-11	METAL CHIP	390	5%	1/16W	(TR760E/TR810E/TR910E)
R2111	1-216-821-11	METAL CHIP	1K	5%	1/16W	(TR760E/TR810E/TR910E)

Ref. No.	Part No.	Description	Remark
R2112	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	(TR760E/TR810E/TR910E)
R2113	1-216-820-11	METAL CHIP 820 5% 1/16W	(TR760E/TR810E/TR910E)
R2116	1-216-817-11	METAL CHIP 470 5% 1/16W	(TR760E/TR810E/TR910E)
R2117	1-216-816-11	METAL CHIP 390 5% 1/16W	(TR760E/TR810E/TR910E)
R2119	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	(TR760E/TR810E/TR910E)
R2120	1-216-819-11	METAL CHIP 680 5% 1/16W	(TR760E/TR810E/TR910E)
R2121	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	(TR760E/TR810E/TR910E)
R2122	1-216-833-11	METAL CHIP 10K 5% 1/16W	(TR760E/TR810E/TR910E)
R2124	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	(TR760E/TR810E/TR910E)
R2127	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	(TR760E/TR810E/TR910E)
R2128	1-216-821-11	METAL CHIP 1K 5% 1/16W	(TR760E/TR810E/TR910E)
R2130	1-216-821-11	METAL CHIP 1K 5% 1/16W	(TR760E/TR810E/TR910E)
R2131	1-216-821-11	METAL CHIP 1K 5% 1/16W	(TR760E/TR810E/TR910E)
R2132	1-216-821-11	METAL CHIP 1K 5% 1/16W	(TR760E/TR810E/TR910E)
R2133	1-216-821-11	METAL CHIP 1K 5% 1/16W	(TR760E/TR810E/TR910E)
R2134	1-216-821-11	METAL CHIP 1K 5% 1/16W	(TR760E/TR810E/TR910E)
R2151	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R2152	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R2155	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R2162	1-216-845-11	METAL CHIP 100K 5% 1/16W	

< VIBRATOR >

Ref. No.	Part No.	Description	Remark
X1951	1-760-458-21	VIBRATOR, CRYSTAL (32.768kHz)	
X1952	1-579-907-21	VIBRATOR, CERAMIC (20MHz)	

* A-7072-624-A LB-45 (VH4CP) BOARD, COMPLETE (TR710E/TR910E)
****
(Ref. No. 5,000 Series)

< CAPACITOR >

Ref. No.	Part No.	Description	Remark
C801	1-104-917-11	TANTAL. CHIP 15uF 20% 20V	
C802	1-165-178-11	CERAMIC CHIP 6.8uF 16V	
C803	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C804	1-163-020-00	CERAMIC CHIP 0.0082uF 10% 50V	
C805	1-163-020-00	CERAMIC CHIP 0.0082uF 10% 50V	
C806	1-163-020-00	CERAMIC CHIP 0.0082uF 10% 50V	

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
* CN801	1-573-333-21	CONNECTOR, BOARD TO BOARD 10P	

< COIL >

Ref. No.	Part No.	Description	Remark
L801	1-412-030-11	INDUCTOR CHIP 22uH	
L802	1-412-029-11	INDUCTOR CHIP 10uH	

< FLUORECENT INDICATOR >

Ref. No.	Part No.	Description	Remark
⚠ND801	1-517-414-21	FLUORESCENT TUBE (0.55 INCH)	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q801	8-729-035-61	TRANSISTOR FX214-S-TL1	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R802	1-216-839-11	METAL CHIP 33K 5% 1/16W	

< TRANSFORMER >

Ref. No.	Part No.	Description	Remark
⚠T801	1-426-849-31	TRANSFORMER, INVERTER	

* A-7072-548-A LC-52 (HC) BOARD, COMPLETE
****
(Ref. No. 4,000 Series)

< CAPACITOR >

Ref. No.	Part No.	Description	Remark
C181	1-162-974-11	CERAMIC CHIP 0.01uF 50V	

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN181	1-573-350-11	CONNECTOR, FFC/FPC 10P	
CN182	1-766-350-21	CONNECTOR, FFC/FPC 20P	

< IC >

Ref. No.	Part No.	Description	Remark
IC181	8-759-073-95	IC SED1510F0C-T4	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R181	1-216-855-11	METAL CHIP 680K 5% 1/16W	
R202	1-216-812-11	METAL CHIP 180 5% 1/16W	
R203	1-216-812-11	METAL CHIP 180 5% 1/16W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description			Remark
*	A-7072-546-A	LI-56 (HC) BOARD, COMPLETE			
		**************************			
		(Ref. No. 3,000 Series)			
		< BATTERY HOLDER >			
BH101	1-550-104-32	HOLDER, BATTERY			
		< CAPACITOR >			
C101	1-115-156-11	CERAMIC CHIP	1uF		10V
C102	1-115-156-11	CERAMIC CHIP	1uF		10V
		< CONNECTOR >			
* CN101	1-770-619-11	PIN, CONNECTOR 2P			
*	A-7072-547-A	MA-268 (HC) BOARD, COMPLETE			
		***************************			
		(Ref. No. 4,000 Series)			
		< CAPACITOR >			
C302	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C303	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C314	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C315	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C323	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C326	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C329	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C330	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C335	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C336	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C337	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C338	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C339	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C340	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C341	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C342	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C343	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C344	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C345	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C346	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C347	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C348	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C349	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C351	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C354	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C355	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C356	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C357	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C359	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C360	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C361	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C363	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C364	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C365	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C366	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C367	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C368	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C369	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C370	1-164-346-11	CERAMIC CHIP	1uF		16V
C371	1-164-346-11	CERAMIC CHIP	1uF		16V
C372	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C376	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C377	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C378	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
		< CONNECTOR >			
CN301	1-580-055-21	PIN, CONNECTOR 2P			
CN302	1-580-055-21	PIN, CONNECTOR 2P			
CN303	1-764-522-11	CONNECTOR, FFC/FPC (ZIF) 13P			
		< DIODE >			
D303	8-719-059-73	DIODE	CL-150HR-CD-T		
D304	8-719-404-49	DIODE	MA111		
D305	8-719-045-87	DIODE	MA4Z082WA-(TXD).SO		
		< IC >			
IC301	8-759-248-31	IC	BA7780KV-E2		
IC303	8-749-012-17	IC	RS-140-T		
		< JACK >			
J301	1-691-737-11	JACK (SMALL TYPE)(MIC (PLUG IN POWER))			
		< RESISTOR >			
R301	1-216-864-11	METAL CHIP	0	5%	1/16W
R302	1-216-864-11	METAL CHIP	0	5%	1/16W
R303	1-216-864-11	METAL CHIP	0	5%	1/16W
R304	1-216-864-11	METAL CHIP	0	5%	1/16W
R312	1-216-835-11	METAL CHIP	15K	5%	1/16W
R314	1-216-835-11	METAL CHIP	15K	5%	1/16W
R318	1-216-864-11	METAL CHIP	0	5%	1/16W
R319	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R323	1-216-864-11	METAL CHIP	0	5%	1/16W
R328	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R330	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R331	1-216-821-11	METAL CHIP	1K	5%	1/16W
R332	1-216-833-11	METAL CHIP	10K	5%	1/16W
R333	1-216-833-11	METAL CHIP	10K	5%	1/16W
R334	1-216-833-11	METAL CHIP	10K	5%	1/16W
R335	1-216-821-11	METAL CHIP	1K	5%	1/16W
R336	1-216-825-11	METAL CHIP	2.2K	5%	1/16W

Ref. No.	Part No.	Description				Remark
R337	1-216-831-11	METAL CHIP	6.8K	5%	1/16W	
R338	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R340	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R342	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R343	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R344	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R345	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R346	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R348	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R349	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R350	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R351	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R354	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R355	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R356	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R357	1-216-830-11	METAL CHIP	5.6K	5%	1/16W	
R358	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R362	1-216-834-11	METAL CHIP	12K	5%	1/16W	
R363	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R364	1-216-818-11	METAL CHIP	560	5%	1/16W	
R365	1-216-832-11	METAL CHIP	8.2K	5%	1/16W	
R370	1-216-805-11	METAL CHIP	47	5%	1/16W	
R371	1-216-836-11	METAL CHIP	18K	5%	1/16W	
R373	1-216-864-11	METAL CHIP	0	5%	1/16W	

* A-7072-551-A SE-51 (HC) BOARD, COMPLETE

(EXCEPT TR760E)

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(Ref. No. 3,000 Series)

< CAPACITOR >

Ref. No.	Part No.	Description				Remark
C451	1-104-847-11	TANTAL. CHIP	22uF	20%	4V	
C452	1-104-847-11	TANTAL. CHIP	22uF	20%	4V	
C453	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C454	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V	
C455	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C456	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C457	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V	
C458	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V	
C459	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V	
C460	1-128-257-21	ELECT CHIP	33uF	20%	10V	
C461	1-128-257-21	ELECT CHIP	33uF	20%	10V	
C462	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C467	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V	
C468	1-164-156-11	CERAMIC CHIP	0.1uF		25V	
C469	1-115-156-11	CERAMIC CHIP	1uF		10V	

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN451	1-766-342-21	CONNECTOR, FFC/FPC 12P	

< IC >

Ref. No.	Part No.	Description		Remark
IC451	8-759-080-34	IC	TA75W01FU-TE12R	
IC452	8-759-058-45	IC	NJM3403AV(TE2)	
IC453	8-759-234-77	IC	TC4S66F	
IC454	8-759-234-77	IC	TC4S66F	
IC455	8-759-248-78	IC	MB88102PFV-G-BND-ER	

< COIL >

Ref. No.	Part No.	Description		Remark
L451	1-414-078-11	INDUCTOR	10uH	
L452	1-414-078-11	INDUCTOR	10uH	

< RESISTOR >

Ref. No.	Part No.	Description				Remark
R451	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R452	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R453	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R454	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R455	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R456	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R457	1-216-803-11	METAL CHIP	33	5%	1/16W	
R458	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R459	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R460	1-218-911-11	METAL CHIP	470K	0.50%	1/16W	
R461	1-218-911-11	METAL CHIP	470K	0.50%	1/16W	
R462	1-218-911-11	METAL CHIP	470K	0.50%	1/16W	
R463	1-218-911-11	METAL CHIP	470K	0.50%	1/16W	
R464	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R465	1-216-850-11	METAL CHIP	270K	5%	1/16W	
R466	1-216-850-11	METAL CHIP	270K	5%	1/16W	
R467	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R468	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R470	1-216-864-11	METAL CHIP	0	5%	1/16W	
R472	1-216-864-11	METAL CHIP	0	5%	1/16W	

< SENSOR >

Ref. No.	Part No.	Description	Remark
SE451	1-810-725-71	SENSOR, ANGULAR VELOCITY (YAW)	
SE452	1-810-725-81	SENSOR, ANGULAR VELOCITY (PITCH)	

Ref. No.	Part No.	Description	Remark
*	A-7092-765-A	VC-177 (HP) BOARD, COMPLETE (TR810E)	
		***************************	
*	A-7092-805-A	VC-177 (MP) BOARD, COMPLETE	(TR610E:AEP,UK)
		***************************	
*	A-7092-924-A	VC-177 (HLP) BOARD, COMPLETE (TR760E)	
		****************************	
*	A-7092-972-A	VC-177 (HCPE) BOARD, COMPLETE (TR910E)	
		*****************************	
*	A-7092-976-A	VC-177 (MCPE) BOARD, COMPLETE (TR710E)	
		*****************************	
*	A-7092-983-A	VC-177(MPE) BOARD, COMPLETE (TR610E:E)	
		***************************	
			(Ref. No. 10,000 Series)
		< CAPACITOR >	
C251	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C252	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C253	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C254	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(TR610E:AEP,UK/TR760E/TR810E)
C255	1-164-489-11	CERAMIC CHIP 0.22uF 10% 16V	
C256	1-163-989-11	CERAMIC CHIP 0.033uF 10% 25V	
C258	1-104-752-11	TANTAL. CHIP 33uF 20% 6.3V	
C259	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C260	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C261	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C262	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C263	1-115-156-11	CERAMIC CHIP 1uF 10V	
C266	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C267	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C268	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C269	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C271	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	
C274	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C276	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C572	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	(TR760E/TR810E)
C573	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	(TR760E/TR810E)
C574	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C576	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	
C577	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	
C578	1-104-908-11	TANTAL. CHIP 47uF 20% 4V	
C579	1-104-908-11	TANTAL. CHIP 47uF 20% 4V	
C580	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(TR610E:AEP,UK/TR760E/TR810E)
C581	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(TR610E:AEP,UK/TR760E/TR810E)

Ref. No.	Part No.	Description	Remark
C586	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(TR610E:AEP,UK/TR760E/TR810E)
C587	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(TR610E:AEP,UK/TR760E/TR810E)
C609	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C610	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1002	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	
C1003	1-164-217-11	CERAMIC CHIP 150PF 5% 50V	
C1004	1-162-926-11	CERAMIC CHIP 82PF 5% 50V	
C1005	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	
C1006	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1007	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1008	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C1009	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1010	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1011	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1012	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1013	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1014	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1018	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C1019	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C1020	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1021	1-104-852-11	TANTAL. CHIP 22uF 20% 6.3V	
C1022	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1023	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1024	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1025	1-104-852-11	TANTAL. CHIP 22uF 20% 6.3V	
C1026	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C1027	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1029	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C1030	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1034	1-104-852-11	TANTAL. CHIP 22uF 20% 6.3V	
C1035	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1036	1-162-968-11	CERAMIC CHIP 0.0047uF 10% 50V	
C1038	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1039	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1040	1-162-958-11	CERAMIC CHIP 270PF 5% 50V	
C1042	1-162-921-11	CERAMIC CHIP 33PF 5% 50V	
C1044	1-162-966-11	CERAMIC CHIP 0.0022uF 10% 50V	
C1045	1-162-958-11	CERAMIC CHIP 270PF 5% 50V	
C1046	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V	(TR760E/TR810E/TR910E)
C1047	1-162-922-11	CERAMIC CHIP 39PF 5% 50V	(TR760E/TR810E/TR910E)
C1048	1-162-925-11	CERAMIC CHIP 68PF 5% 50V	(TR760E/TR810E/TR910E)
C1049	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V	(TR760E/TR810E/TR910E)
C1050	1-162-921-11	CERAMIC CHIP 33PF 5% 50V	(TR760E/TR810E/TR910E)
C1051	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	

VC-177

Ref. No.	Part No.	Description				Remark
C1052	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C1053	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1054	1-162-925-11	CERAMIC CHIP	68PF	5%	50V	
C1055	1-164-156-11	CERAMIC CHIP	0.1uF		25V	
C1056	1-162-926-11	CERAMIC CHIP	82PF	5%	50V	
C1057	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V	
C1058	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1061	1-162-959-11	CERAMIC CHIP	330PF	5%	50V	
C1062	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1063	1-162-921-11	CERAMIC CHIP	33PF	5%	50V	
C1064	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	
C1066	1-162-920-11	CERAMIC CHIP	27PF	5%	50V	
C1067	1-162-918-11	CERAMIC CHIP	18PF	5%	50V	
C1068	1-162-907-11	CERAMIC CHIP	2PF	0.25PF	50V	
C1069	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1070	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1071	1-162-928-11	CERAMIC CHIP	120PF	5%	50V	
C1072	1-162-928-11	CERAMIC CHIP	120PF	5%	50V	
C1075	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1076	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	
C1151	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1152	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	
C1153	1-164-217-11	CERAMIC CHIP	150PF	5%	50V	
C1154	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	
C1156	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1157	1-115-156-11	CERAMIC CHIP	1uF		10V	
C1160	1-115-156-11	CERAMIC CHIP	1uF		10V	
C1161	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1162	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1163	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1164	1-164-156-11	CERAMIC CHIP	0.1uF		25V	
C1165	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C1166	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1167	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1168	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1201	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V	
C1203	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V	
C1204	1-164-392-11	CERAMIC CHIP	390PF	5%	50V	
C1205	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1206	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	
C1207	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1208	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1209	1-164-156-11	CERAMIC CHIP	0.1uF		25V	
C1210	1-115-156-11	CERAMIC CHIP	1uF		10V	
C1212	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C1213	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	
C1215	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	
C1216	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1217	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C1218	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1219	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V	
C1220	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V	
C1222	1-115-156-11	CERAMIC CHIP	1uF		10V	
C1223	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1224	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	
C1227	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C1228	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C1229	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1230	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C1231	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V	
C1232	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V	
C1233	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C1234	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1236	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1237	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	
C1240	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1280	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V	
C1282	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	(TR610E:E/TR710E/TR910E)
C1283	1-162-922-11	CERAMIC CHIP	39PF	5%	50V	
C1284	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C1285	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1301	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1302	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V	
C1306	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	(TR610E:E/TR710E/TR910E)
C1307	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C1308	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V	
C1309	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V	(TR910E)
C1310	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V	
C1311	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V	
C1312	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	(TR910E)
C1313	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1314	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V	
C1315	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1317	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	
C1318	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V	
C1319	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1320	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1321	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	(TR610E:E/TR710E/TR910E)
C1322	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V	(TR610E:E/TR710E/TR910E)
C1323	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	(TR610E:E/TR710E/TR910E)
C1324	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	(TR610E:E/TR710E/TR910E)
C1326	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	(TR610E:E/TR710E/TR910E)
C1327	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	

Ref.No.	Part No.	Description			Remark
C1328	1-162-919-11	CERAMIC CHIP	22PF	5%	50V (TR610E:E/TR710E/TR910E)
C1330	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (TR760E/TR810E/TR910E)
C1331	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V (TR760E/TR810E/TR910E)
C1332	1-126-246-11	ELECT CHIP	220uF	20%	4V (TR760E/TR810E/TR910E)
C1333	1-126-246-11	ELECT CHIP	220uF	20%	4V
C1334	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C1335	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1336	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1337	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1338	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1339	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C1340	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1342	1-162-928-11	CERAMIC CHIP	120PF	5%	50V (TR610E:E/TR710E/TR910E)
C1343	1-162-920-11	CERAMIC CHIP	27PF	5%	50V (TR610E:E/TR710E/TR910E)
C1345	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V (TR610E:E/TR710E/TR910E)
C1346	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C1347	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C1402	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C1403	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C1404	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C1405	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1406	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C1407	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C1408	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C1409	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C1410	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1411	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1412	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1414	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1415	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1416	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C1417	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C1421	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1422	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C1423	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C1424	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1425	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C1426	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C1427	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C1429	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C1430	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C1431	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C1432	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C1433	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C1434	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V

Ref.No.	Part No.	Description			Remark
C1435	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
C1436	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C1437	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C1439	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V
C1441	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1444	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1471	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C1474	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1475	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C1601	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C1602	1-115-156-11	CERAMIC CHIP	1uF		10V
C1604	1-135-214-21	TANTAL. CHIP	4.7uF	20%	20V
C1605	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1608	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C1612	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C1613	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1615	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1616	1-162-916-11	CERAMIC CHIP	12PF	5%	50V
C1617	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C1618	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C1619	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C1620	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1621	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1622	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1623	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1624	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1625	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1626	1-164-346-11	CERAMIC CHIP	1uF		16V
C1628	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1629	1-115-156-11	CERAMIC CHIP	1uF		10V
C1630	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C1631	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C1632	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1635	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C1654	1-115-156-11	CERAMIC CHIP	1uF		10V
C1655	1-115-156-11	CERAMIC CHIP	1uF		10V
C1656	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C1657	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C1658	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1659	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1665	1-115-156-11	CERAMIC CHIP	1uF		10V
C1702	1-115-156-11	CERAMIC CHIP	1uF		10V
C1703	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (TR760E/TR810E/TR910E)
C1751	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C1752	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1753	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1754	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1755	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C1756	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C1757	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V

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Ref.No.	Part No.	Description			Remark
C1758	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C1760	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1761	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C1762	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C1763	1-162-911-11	CERAMIC CHIP	6PF	0.5PF	50V
C1764	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C1765	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C1767	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C1768	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1769	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1770	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C1771	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C1772	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C1773	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1774	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1775	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1776	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C1777	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1779	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1780	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1781	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C1782	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C1851	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1852	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1853	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1854	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C1855	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1856	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C1857	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C1858	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1859	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1860	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1861	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1862	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C1863	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C1864	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C1865	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1866	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C1867	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C1868	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1869	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C1870	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C1871	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1872	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1873	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C1874	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C1875	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C1876	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C1877	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C1878	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V

Ref.No.	Part No.	Description			Remark
C1879	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1880	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1882	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1884	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1886	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1887	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C1888	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C2051	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V (TR710E/TR910E)
C2052	1-164-156-11	CERAMIC CHIP	0.1uF		25V (TR710E/TR910E)
C2054	1-164-156-11	CERAMIC CHIP	0.1uF		25V (TR710E/TR910E)
C2055	1-164-156-11	CERAMIC CHIP	0.1uF		25V (TR710E/TR910E)
C2056	1-164-156-11	CERAMIC CHIP	0.1uF		25V (TR710E/TR910E)
C2057	1-164-156-11	CERAMIC CHIP	0.1uF		25V (TR710E/TR910E)

< CONNECTOR >

Ref.No.	Part No.	Description	Remark
CN101	1-766-341-21	CONNECTOR, FFC/FPC 11P	
CN102	1-766-345-21	CONNECTOR, FFC/FPC 15P	
CN103	1-766-342-21	CONNECTOR, FFC/FPC 12P	
CN104	1-766-340-21	CONNECTOR, FFC/FPC 10P	
CN105	1-766-644-21	CONNECTOR, FFC/FPC 8P	
CN106	1-691-542-21	CONNECTOR, BOARD TO BOARD 48P	
CN107	1-766-344-21	CONNECTOR, FFC/FPC 14P	
CN108	1-766-353-21	CONNECTOR, FFC/FPC 23P	
CN109	1-691-352-21	CONNECTOR, FFC/FPC (ZIF) 14P	
CN110	1-774-596-41	CONNECTOR, BOARD TO BOARD 60P	
CN111	1-766-350-21	CONNECTOR, FFC/FPC 20P	
CN112	1-750-630-11	CONNECTOR, FFC/FPC (ZIF) 16P	
CN113	1-573-363-21	CONNECTOR, FFC/FPC 23P	
CN202	1-766-343-21	CONNECTOR, FFC/FPC 13P	(EXCEPT TR760E)
CN203	1-774-641-21	CONNECTOR, FFC/FPC 18P	(TR760E/TR810E)
CN205	1-766-340-21	CONNECTOR, FFC/FPC 10P	(TR760E/TR810E/TR910E)

< DIODE >

Ref.No.	Part No.	Description		Remark
D384	8-719-045-87	DIODE	MA4Z082WA-(TXD).SO	
D385	8-719-045-87	DIODE	MA4Z082WA-(TXD).SO	
D394	8-719-045-87	DIODE	MA4Z082WA-(TXD).SO	
D651	8-719-404-49	DIODE	MA111	(TR610E/TR760E/TR810E)
D652	8-719-404-49	DIODE	MA111	(TR610E/TR760E/TR810E)
D653	8-719-404-49	DIODE	MA111	(TR610E/TR760E/TR810E)
D1201	8-719-055-86	DIODE	KV1470TL1-3	
D1202	8-719-055-86	DIODE	KV1470TL1-3	
D1601	8-719-404-49	DIODE	MA111	
D1602	8-713-102-28	DIODE	1T379-04-T8A	
D1758	8-719-420-51	DIODE	MA729	

Ref. No.	Part No.	Description	Remark
		< FERRITE BEAD >	
FB1151	1-500-284-21	INDUCTOR, FERRITE BEAD	
FB1601	1-414-228-11	INDUCTOR, FERRITE BEAD	
FB1602	1-414-228-11	INDUCTOR, FERRITE BEAD	
FB1603	1-500-284-21	INDUCTOR, FERRITE BEAD	
FB1604	1-500-284-21	INDUCTOR, FERRITE BEAD	
FB1605	1-500-284-21	INDUCTOR, FERRITE BEAD	
FB1701	1-414-228-11	INDUCTOR, FERRITE BEAD	
		< IC >	
IC101	8-752-075-31	IC CXA2012R-T4	
IC102	8-759-357-62	IC MB87B108DPFV-G-BND-ER	
IC103	8-752-356-45	IC CXD2301Q-T4	
IC104	8-759-357-65	IC uPD6466GS-604-GLG-E2	
IC105	8-759-357-64	IC CF45819BPZ-TEB	
IC106	8-759-387-35	IC HG51CS276TETL	
IC108	8-759-290-12	IC M62370GP-650D	
IC109	8-759-368-08	IC AN2980FH-EB	
IC114	8-752-380-17	IC CXD2177BR-T6	
IC115	8-752-379-65	IC CXD2178AR-T6	(TR760E/TR810E/TR910E)
IC116	8-759-365-53	IC S-29L353AFS-TB	
IC117	8-752-873-94	IC CXP912032-015R-T6	
IC118	8-759-058-62	IC TC7S08FU(TE85R)	
IC119	8-759-058-62	IC TC7S08FU(TE85R)	
IC120	8-759-356-30	IC XR1083ACQ-E2	
IC121	8-759-327-67	IC LB1950V-TLM	
IC122	8-759-327-62	IC TA8482FN-EL	
IC129	8-759-357-63	IC AN2220FH-EB	
IC130	8-759-058-58	IC TC7S04FU(TE85R)	(TR610E:E/TR710E/TR910E)
IC151	8-752-376-32	IC CXD2310AR-T4	
IC152	8-752-377-12	IC CXD2175R-T6	
IC202	8-752-377-92	IC CXD2485R-T4	
IC203	8-752-073-11	IC CXA2006Q-T4	
IC251	8-759-337-40	IC NJM2904V(TE2)	
IC252	8-759-351-46	IC MPC17A34RVMEL	
IC253	8-759-337-41	IC NJM2902V(TE2)	
IC255	8-752-377-38	IC CXD2430N-T4	
IC800	8-752-378-02	IC CXD2049R-T4	(TR710E/TR910E)
		< COIL >	
L251	1-414-078-11	INDUCTOR 10uH	
L252	1-414-078-11	INDUCTOR 10uH	
L253	1-412-058-11	INDUCTOR CHIP 10uH	
L1001	1-412-952-11	INDUCTOR 12uH	
L1002	1-412-066-21	INDUCTOR CHIP 220uH	
L1003	1-412-066-21	INDUCTOR CHIP 220uH	
L1004	1-412-066-21	INDUCTOR CHIP 220uH	
L1005	1-414-080-11	INDUCTOR 222uH	
L1006	1-412-957-11	INDUCTOR 33uH	
L1007	1-412-280-31	INDUCTOR 330uH	
L1008	1-412-282-41	INDUCTOR 470uH	
L1009	1-410-657-21	INDUCTOR CHIP 180uH	
L1010	1-412-956-21	INDUCTOR 27uH	(TR760E/TR810E/TR910E)
L1011	1-412-949-21	INDUCTOR 6. 8uH	(TR760E/TR810E/TR910E)
L1012	1-412-951-11	INDUCTOR 10uH	(TR760E/TR810E/TR910E)
L1013	1-414-078-11	INDUCTOR 10uH	
L1014	1-410-656-11	INDUCTOR CHIP 150uH	
L1015	1-412-963-11	INDUCTOR 100uH	
L1018	1-410-656-11	INDUCTOR CHIP 150uH	
L1019	1-412-280-31	INDUCTOR 330uH	
L1021	1-412-944-11	INDUCTOR 2. 7uH	
L1022	1-412-279-31	INDUCTOR 270uH	
L1151	1-414-078-11	INDUCTOR 10uH	
L1154	1-414-078-11	INDUCTOR 10uH	
L1201	1-414-078-11	INDUCTOR 10uH	
L1202	1-414-078-11	INDUCTOR 10uH	
L1203	1-414-078-11	INDUCTOR 10uH	
L1204	1-412-945-11	INDUCTOR 3. 3uH	
L1206	1-414-078-11	INDUCTOR 10uH	
L1207	1-414-078-11	INDUCTOR 10uH	
L1209	1-414-078-11	INDUCTOR 10uH	
L1220	1-412-955-11	INDUCTOR 22uH	
L1301	1-414-078-11	INDUCTOR 10uH	
L1303	1-412-937-11	INDUCTOR 0. 68uH	(TR610E:E/TR710E/TR910E)
L1305	1-414-078-11	INDUCTOR 10uH	
L1306	1-414-078-11	INDUCTOR 10uH	
L1307	1-414-078-11	INDUCTOR 10uH	
L1308	1-412-959-11	INDUCTOR 47uH	(TR610E:E/TR710E/TR910E)
L1309	1-412-955-11	INDUCTOR 22uH	
L1402	1-414-078-11	INDUCTOR 10uH	
L1403	1-414-233-21	INDUCTOR, FERRITE BEAD	
L1603	1-412-058-11	INDUCTOR CHIP 10uH	
L1652	1-414-078-11	INDUCTOR 10uH	
L1654	1-414-078-11	INDUCTOR 10uH	
L1751	1-414-078-11	INDUCTOR 10uH	
L1752	1-414-078-11	INDUCTOR 10uH	
L1753	1-414-078-11	INDUCTOR 10uH	
L1754	1-412-961-11	INDUCTOR 68uH	
L2051	1-414-078-11	INDUCTOR 10uH	(TR710E/TR910E)
		< TRANSISTOR >	
Q251	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q252	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q253	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q254	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	(EXCEPT TR760E)
Q572	8-729-037-63	TRANSISTOR UN9115J-(TX).SO	

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Ref.No.	Part No.	Description	Remark
Q573	8-729-429-18	TRANSISTOR UN9213	(TR760E/TR810E)
Q574	8-729-037-76	TRANSISTOR UN9215J-(TX).SO	(TR760E/TR810E)
Q575	8-729-037-77	TRANSISTOR UN9216J-(TX).SO	(TR760E/TR810E)
Q578	8-729-037-76	TRANSISTOR UN9215J-(TX).SO	
Q579	8-729-037-77	TRANSISTOR UN9216J-(TX).SO	
Q580	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q581	8-729-037-61	TRANSISTOR UN9113J-(TX).SO	(TR760E/TR810E)
Q582	8-729-037-76	TRANSISTOR UN9215J-(TX).SO	(TR760E/TR810E)
Q583	8-729-037-77	TRANSISTOR UN9216J-(TX).SO	(TR760E/TR810E)
Q585	8-729-037-76	TRANSISTOR UN9215J-(TX).SO	
Q586	8-729-037-61	TRANSISTOR UN9113J-(TX).SO	
Q587	8-729-037-77	TRANSISTOR UN9216J-(TX).SO	
Q588	8-729-037-77	TRANSISTOR UN9216J-(TX).SO	
Q589	8-729-037-77	TRANSISTOR UN9216J-(TX).SO	
Q590	8-729-037-61	TRANSISTOR UN9113J-(TX).SO	
Q591	8-729-015-66	TRANSISTOR 2SC4919-TL	
Q592	8-729-015-66	TRANSISTOR 2SC4919-TL	(TR610E:AEP,UK/TR760E/TR810E/TR910E)
Q593	8-729-015-66	TRANSISTOR 2SC4919-TL	(TR610E:AEP,UK/TR760E/TR810E/TR910E)
Q1001	8-729-031-69	TRANSISTOR 2SA1965-TL	
Q1002	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	(TR710E)
Q1003	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q1004	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1005	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1006	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1007	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	(TR710E)
Q1009	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	(TR710E)
Q1010	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1013	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1014	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1015	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1016	8-729-037-89	TRANSISTOR 2SC4627J-C(TX).SO	(TR760E/TR810E/TR910E)
Q1018	8-729-425-50	TRANSISTOR 2SB1462Q	(TR760E/TR810E/TR910E)
Q1019	8-729-037-89	TRANSISTOR 2SC4627J-C(TX).SO	(TR760E/TR810E/TR910E)
Q1021	8-729-429-18	TRANSISTOR UN9213	(TR760E/TR810E/TR910E)
Q1022	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1023	8-729-807-86	TRANSISTOR 2SB1295-UL5	
Q1024	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1027	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1030	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q1031	8-729-037-89	TRANSISTOR 2SC4627J-C(TX).SO	
Q1033	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1034	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1035	8-729-031-69	TRANSISTOR 2SA1965-TL	
Q1036	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1037	8-729-429-18	TRANSISTOR UN9213	(TR760E/TR810E/TR910E)
Q1151	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1201	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1202	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q1203	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1220	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1221	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	(TR610E:E/TR710E/TR910E)
Q1222	8-729-037-63	TRANSISTOR UN9115J-(TX).SO	(TR610E:E/TR710E/TR760E/TR810E/TR910E)
Q1305	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1306	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q1601	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1602	8-729-037-61	TRANSISTOR UN9113J-(TX).SO	
Q1603	8-729-037-61	TRANSISTOR UN9113J-(TX).SO	
Q1604	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1751	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1851	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q1852	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q1853	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q1854	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q2051	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	(TR710E/TR910E)
Q2052	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	(TR710E/TR910E)
Q2053	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	(TR710E/TR910E)

< RESISTOR >

Ref.No.	Part No.	Description				Remark
R251	1-216-836-11	METAL CHIP	18K	5%	1/16W	
R252	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R253	1-216-836-11	METAL CHIP	18K	5%	1/16W	
R254	1-216-001-00	METAL CHIP	10	5%	1/10W	
R255	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R256	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R257	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R258	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R259	1-216-830-11	METAL CHIP	5.6K	5%	1/16W	
R260	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R261	1-216-815-11	METAL CHIP	330	5%	1/16W	
R262	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R263	1-216-848-11	METAL CHIP	180K	5%	1/16W	
R264	1-216-848-11	METAL CHIP	180K	5%	1/16W	
R265	1-216-836-11	METAL CHIP	18K	5%	1/16W	
R266	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R267	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R268	1-218-893-11	METAL CHIP	82K	0.50%	1/16W	

Ref. No.	Part No.	Description	Remark
R269	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R270	1-216-843-11	METAL CHIP 68K 5% 1/16W	
R271	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R272	1-216-851-11	METAL CHIP 330K 5% 1/16W	
R273	1-216-843-11	METAL CHIP 68K 5% 1/16W	
R274	1-216-843-11	METAL CHIP 68K 5% 1/16W	
R275	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R276	1-218-883-11	METAL CHIP 33K 0.50% 1/16W	
R294	1-216-841-11	METAL CHIP 47K 5% 1/16W	(EXCEPT TR760E)
R295	1-216-864-11	METAL CHIP 0 5% 1/16W	(EXCEPT TR760E)
R298	1-216-864-11	METAL CHIP 0 5% 1/16W	(EXCEPT TR760E)
R300	1-216-864-11	METAL CHIP 0 5% 1/16W	(EXCEPT TR760E)
R572	1-216-817-11	METAL CHIP 470 5% 1/16W	(TR760E/TR810E)
R573	1-216-817-11	METAL CHIP 470 5% 1/16W	(TR760E/TR810E)
R574	1-216-817-11	METAL CHIP 470 5% 1/16W	(TR760E/TR810E)
R575	1-216-817-11	METAL CHIP 470 5% 1/16W	(TR760E/TR810E)
R576	1-216-845-11	METAL CHIP 100K 5% 1/16W	(TR760E/TR810E)
R579	1-216-817-11	METAL CHIP 470 5% 1/16W	
R580	1-216-817-11	METAL CHIP 470 5% 1/16W	
R581	1-216-817-11	METAL CHIP 470 5% 1/16W	
R582	1-216-817-11	METAL CHIP 470 5% 1/16W	
R583	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R584	1-216-810-11	METAL CHIP 120 5% 1/16W	
R585	1-216-810-11	METAL CHIP 120 5% 1/16W	
R600	1-216-804-11	METAL CHIP 39 5% 1/16W	
R601	1-216-804-11	METAL CHIP 39 5% 1/16W	(TR610E:AEP,UK/TR760E/TR810E/TR910E)
R602	1-216-804-11	METAL CHIP 39 5% 1/16W	(TR610E:AEP,UK/TR760E/TR810E/TR910E)
R603	1-216-803-11	METAL CHIP 33 5% 1/16W	(TR610E:AEP,UK/TR760E/TR810E/TR910E)
R604	1-216-803-11	METAL CHIP 33 5% 1/16W	(TR610E:AEP,UK/TR760E/TR810E/TR910E)
R605	1-216-803-11	METAL CHIP 33 5% 1/16W	
R606	1-216-821-11	METAL CHIP 1K 5% 1/16W	(TR760E/TR810E)
R607	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	(TR760E/TR810E)
R608	1-216-821-11	METAL CHIP 1K 5% 1/16W	(TR760E/TR810E)
R609	1-216-295-91	CONDUCTOR, CHIP (2012)	(TR610E:E/TR710E/TR910E)
R609	1-412-963-11	INDUCTOR 100UH	(TR610E:AEP,UK/TR760E/TR810E)
R610	1-216-295-91	CONDUCTOR, CHIP (2012)	(TR610E:E/TR710E/TR910E)
R610	1-412-963-11	INDUCTOR 100UH	(TR610E:AEP,UK/TR760E/TR810E)
R611	1-216-864-11	METAL CHIP 0 5% 1/16W	
R613	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR610E:AEP,UK/TR910E)
R614	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR610E:AEP,UK/TR910E)
R615	1-216-864-11	METAL CHIP 0 5% 1/16W	
R616	1-216-864-11	METAL CHIP 0 5% 1/16W	
R617	1-216-864-11	METAL CHIP 0 5% 1/16W	
R619	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	(TR610E:AEP,UK/TR760E/TR810E/TR910E)
R620	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R621	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	(TR610E:AEP,UK/TR760E/TR810E/TR910E)
R622	1-216-864-11	METAL CHIP 0 5% 1/16W	
R651	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	(TR610E/TR760E/TR810E)
R653	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR610E/TR760E/TR810E)
R654	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR610E/TR760E/TR810E)
R655	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR710E/TR910E)
R656	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR710E/TR910E)
R668	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR610E/TR760E/TR810E)
R669	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR610E/TR760E/TR810E)
R702	1-216-864-11	METAL CHIP 0 5% 1/16W	
R703	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R705	1-216-841-11	METAL CHIP 47K 5% 1/16W	(TR610E:E/TR810E)
R705	1-216-842-11	METAL CHIP 56K 5% 1/16W	(TR610E:AEP,UK/TR760E)
R705	1-216-845-11	METAL CHIP 100K 5% 1/16W	(TR710E/TR910E)
R706	1-216-843-11	METAL CHIP 68K 5% 1/16W	(TR610E:AEP,UK/TR760E)
R706	1-216-845-11	METAL CHIP 100K 5% 1/16W	(TR610E:E/TR810E)
R1001	1-216-806-11	METAL GLAZE 56 5% 1/16W	
R1002	1-216-809-11	METAL CHIP 100 5% 1/16W	
R1003	1-216-818-11	METAL CHIP 560 5% 1/16W	
R1004	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R1005	1-216-814-11	METAL CHIP 270 5% 1/16W	
R1006	1-216-813-11	METAL CHIP 220 5% 1/16W	
R1007	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R1008	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R1009	1-216-839-11	METAL CHIP 33K 5% 1/16W	

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Ref. No.	Part No.	Description			Remark
R1010	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1011	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1012	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1013	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1014	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1016	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1017	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1018	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1020	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R1021	1-216-834-11	METAL CHIP	12K	5%	1/16W
R1022	1-216-835-11	METAL CHIP	15K	5%	1/16W
R1023	1-216-817-11	METAL CHIP	470	5%	1/16W
R1024	1-216-817-11	METAL CHIP	470	5%	1/16W
R1025	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1026	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1027	1-216-809-11	METAL CHIP	100	5%	1/16W
R1029	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1030	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1031	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1032	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1033	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1034	1-218-871-11	METAL CHIP	10K	0.50%	1/16W
R1035	1-216-864-11	METAL CHIP	0	5%	1/16W
R1038	1-216-864-11	METAL CHIP	0	5%	1/16W
R1041	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1044	1-216-839-11	METAL CHIP	33K	5%	1/16W
R1049	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1053	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1054	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1055	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1056	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R1057	1-216-817-11	METAL CHIP	470	5%	1/16W
R1058	1-216-864-11	METAL CHIP	0	5%	1/16W
R1059	1-216-864-11	METAL CHIP	0	5%	1/16W (TR610E/TR710E)
R1060	1-216-820-11	METAL CHIP	820	5%	1/16W
R1061	1-216-817-11	METAL CHIP	470	5%	1/16W (TR760E/TR810E/TR910E)
R1062	1-216-817-11	METAL CHIP	470	5%	1/16W (TR760E/TR810E/TR910E)
R1063	1-216-820-11	METAL CHIP	820	5%	1/16W (TR760E/TR810E/TR910E)
R1065	1-216-864-11	METAL CHIP	0	5%	1/16W (TR760E/TR810E/TR910E)
R1066	1-216-821-11	METAL CHIP	1K	5%	1/16W (TR760E/TR810E/TR910E)
R1067	1-216-815-11	METAL CHIP	330	5%	1/16W (TR760E/TR810E/TR910E)
R1068	1-216-817-11	METAL CHIP	470	5%	1/16W (TR760E/TR810E/TR910E)
R1069	1-216-816-11	METAL CHIP	390	5%	1/16W (TR760E/TR810E/TR910E)
R1070	1-216-815-11	METAL CHIP	330	5%	1/16W (TR760E/TR810E/TR910E)
R1072	1-216-828-11	METAL CHIP	3.9K	5%	1/16W (TR760E/TR810E/TR910E)
R1073	1-216-813-11	METAL CHIP	220	5%	1/16W
R1074	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1075	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R1076	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R1079	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1080	1-216-818-11	METAL CHIP	560	5%	1/16W
R1081	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R1085	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1086	1-216-864-11	METAL CHIP	0	5%	1/16W
R1088	1-216-816-11	METAL CHIP	390	5%	1/16W
R1090	1-216-816-11	METAL CHIP	390	5%	1/16W
R1091	1-216-817-11	METAL CHIP	470	5%	1/16W
R1093	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R1094	1-216-864-11	METAL CHIP	0	5%	1/16W
R1095	1-216-815-11	METAL CHIP	330	5%	1/16W
R1096	1-216-817-11	METAL CHIP	470	5%	1/16W
R1097	1-216-817-11	METAL CHIP	470	5%	1/16W
R1098	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1099	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1100	1-216-809-11	METAL CHIP	100	5%	1/16W
R1104	1-216-295-91	CONDUCTOR, CHIP (2012)			
R1105	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1106	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1108	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1109	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R1110	1-216-805-11	METAL CHIP	47	5%	1/16W
R1111	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1112	1-216-818-11	METAL CHIP	560	5%	1/16W
R1113	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R1114	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1151	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1152	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R1153	1-216-816-11	METAL CHIP	390	5%	1/16W
R1154	1-216-834-11	METAL CHIP	12K	5%	1/16W
R1155	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R1156	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R1157	1-216-808-11	METAL CHIP	82	5%	1/16W
R1159	1-216-864-11	METAL CHIP	0	5%	1/16W
R1160	1-216-819-11	METAL CHIP	680	5%	1/16W
R1162	1-216-834-11	METAL CHIP	12K	5%	1/16W
R1163	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R1165	1-216-809-11	METAL CHIP	100	5%	1/16W
R1213	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R1215	1-216-809-11	METAL CHIP	100	5%	1/16W
R1216	1-216-835-11	METAL CHIP	15K	5%	1/16W

Ref.No.	Part No.	Description				Remark
R1217	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R1218	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R1219	1-216-831-11	METAL CHIP	6.8K	5%	1/16W	
R1221	1-216-820-11	METAL CHIP	820	5%	1/16W	
R1222	1-216-820-11	METAL CHIP	820	5%	1/16W	
R1223	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1224	1-216-832-11	METAL CHIP	8.2K	5%	1/16W	
R1225	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R1226	1-216-834-11	METAL CHIP	12K	5%	1/16W	
R1227	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1228	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R1230	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1231	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R1232	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1233	1-216-822-11	METAL CHIP	1.2K	5%	1/16W	
R1234	1-216-840-11	METAL CHIP	39K	5%	1/16W	
R1235	1-216-864-11	METAL CHIP	0	5%	1/16W	
R1236	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1237	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R1238	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1239	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1240	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1241	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1242	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1246	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1247	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1248	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R1249	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R1250	1-216-864-11	METAL CHIP	0	5%	1/16W	
R1251	1-216-817-11	METAL CHIP	470	5%	1/16W	(TR710E/TR910E)
R1251	1-216-821-11	METAL CHIP	1K	5%	1/16W	(TR610E/TR760E/TR810E)
R1252	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	(TR710E/TR910E)
R1252	1-216-833-11	METAL CHIP	10K	5%	1/16W	(TR610E/TR760E/TR810E)
R1253	1-216-819-11	METAL CHIP	680	5%	1/16W	
R1254	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R1255	1-216-817-11	METAL CHIP	470	5%	1/16W	
R1256	1-216-816-11	METAL CHIP	390	5%	1/16W	
R1280	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1281	1-216-822-11	METAL CHIP	1.2K	5%	1/16W	
R1283	1-216-841-11	METAL CHIP	47K	5%	1/16W	(TR610E:E/TR710E/TR910E)
R1283	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR610E:AEP, UK/TR760E/TR810E)
R1284	1-216-841-11	METAL CHIP	47K	5%	1/16W	(TR610E:E/TR710E/TR910E)
R1285	1-216-857-11	METAL CHIP	1M	5%	1/16W	(TR610E:E/TR710E/TR910E)
R1285	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR610E:AEP, UK/TR760E/TR810E)
R1286	1-216-864-11	METAL CHIP	0	5%	1/16W	
R1290	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1292	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R1293	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R1307	1-216-836-11	METAL CHIP	18K	5%	1/16W	
R1308	1-216-837-11	METAL CHIP	22K	5%	1/16W	(TR610E:E/TR710E/TR910E)
R1312	1-216-834-11	METAL CHIP	12K	5%	1/16W	
R1313	1-216-821-11	METAL CHIP	1K	5%	1/16W	(TR760E/TR810E/TR910E)
R1314	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1315	1-216-815-11	METAL CHIP	330	5%	1/16W	(TR760E/TR810E/TR910E)
R1316	1-216-815-11	METAL CHIP	330	5%	1/16W	
R1318	1-216-834-11	METAL CHIP	12K	5%	1/16W	
R1319	1-216-832-11	METAL CHIP	8.2K	5%	1/16W	
R1321	1-218-876-11	METAL CHIP	16K	0.50%	1/16W	
R1322	1-218-847-11	METAL CHIP	1K	0.50%	1/16W	
R1323	1-216-832-11	METAL CHIP	8.2K	5%	1/16W	(TR610E:E/TR710E/TR910E)
R1324	1-216-834-11	METAL CHIP	12K	5%	1/16W	(TR610E:E/TR710E/TR910E)
R1330	1-216-822-11	METAL CHIP	1.2K	5%	1/16W	
R1331	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	
R1332	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR610E:E/TR710E/TR910E)
R1333	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1334	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R1402	1-216-824-11	METAL CHIP	1.8K	5%	1/16W	
R1403	1-218-903-11	METAL CHIP	220K	0.50%	1/16W	
R1404	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R1406	1-218-901-11	METAL CHIP	180K	0.50%	1/16W	
R1407	1-218-873-11	METAL CHIP	12K	0.50%	1/16W	
R1408	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R1409	1-216-820-11	METAL CHIP	820	5%	1/16W	
R1410	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R1415	1-162-925-11	CERAMIC CHIP	68PF	5%	50V	
R1418	1-218-903-11	METAL CHIP	220K	0.50%	1/16W	
R1419	1-216-813-11	METAL CHIP	220	5%	1/16W	
R1421	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	
R1422	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R1423	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R1424	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1425	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R1426	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	
R1429	1-218-909-11	METAL CHIP	390K	0.50%	1/16W	
R1430	1-218-909-11	METAL CHIP	390K	0.50%	1/16W	
R1431	1-216-849-11	METAL CHIP	220K	5%	1/16W	
R1460	1-216-864-11	METAL CHIP	0	5%	1/16W	

Ref. No.	Part No.	Description				Remark
R1463	1-216-864-11	METAL CHIP	0	5%	1/16W	
R1472	1-218-855-11	METAL CHIP	2.2K	0.50%	1/16W	
R1476	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R1601	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R1603	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R1616	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R1620	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1621	1-216-803-11	METAL CHIP	33	5%	1/16W	
R1622	1-216-803-11	METAL CHIP	33	5%	1/16W	
R1626	1-216-864-11	METAL CHIP	0	5%	1/16W	
R1628	1-216-809-11	METAL CHIP	100	5%	1/16W	
R1629	1-216-809-11	METAL CHIP	100	5%	1/16W	
R1630	1-216-809-11	METAL CHIP	100	5%	1/16W	
R1632	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R1633	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R1651	1-216-864-11	METAL CHIP	0	5%	1/16W	
R1653	1-216-803-11	METAL CHIP	33	5%	1/16W	
R1716	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR610E/TR710E)
R1717	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR610E/TR710E)
R1718	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR610E/TR710E)
R1719	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR610E/TR710E)
R1720	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR610E/TR710E)
R1721	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR610E/TR710E)
R1722	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR610E/TR710E)
R1723	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR610E/TR710E)
R1724	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR610E/TR710E)
R1725	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR610E/TR710E)
R1726	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR610E/TR710E)
R1727	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR610E/TR710E)
R1728	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR610E/TR710E)
R1729	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR610E/TR710E)
R1730	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR610E/TR710E)
R1751	1-216-842-11	METAL CHIP	56K	5%	1/16W	
R1752	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R1753	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R1759	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1760	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1761	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1762	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R1763	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1772	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R1773	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R1775	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R1780	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1781	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R1782	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1783	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1784	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1785	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1786	1-216-864-11	METAL CHIP	0	5%	1/16W	
R1787	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1789	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R1790	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1791	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R1792	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1793	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R1794	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R1795	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R1796	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R1798	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1801	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R1803	1-216-832-11	METAL CHIP	8.2K	5%	1/16W	
R1804	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R1805	1-216-856-11	METAL CHIP	820K	5%	1/16W	
R1806	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1807	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R1808	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R1809	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R1810	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R1811	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R1812	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R1813	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R1814	1-216-864-11	METAL CHIP	0	5%	1/16W	
R1817	1-216-845-11	METAL CHIP	100K	5%	1/16W	(TR760E/TR810E/TR910E)
R1818	1-216-837-11	METAL CHIP	22K	5%	1/16W	(TR760E/TR810E/TR910E)
R1818	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR610E/TR710E)
R1820	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R1821	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1822	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R1823	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R1826	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R1827	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R1836	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R1851	1-217-671-11	METAL CHIP	1	5%	1/10W	
R1852	1-217-671-11	METAL CHIP	1	5%	1/10W	

Ref.No.	Part No.	Description				Remark
R1853	1-217-671-11	METAL CHIP	1	5%	1/10W	
R1855	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1856	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1857	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1859	1-216-864-11	METAL CHIP	0	5%	1/16W	
R1860	1-216-864-11	METAL CHIP	0	5%	1/16W	
R1861	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R1862	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R1863	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R1865	1-216-851-11	METAL CHIP	330K	5%	1/16W	
R1867	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R1868	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R1869	1-216-019-00	METAL CHIP	56	5%	1/10W	
R1872	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1873	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1874	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	(TR710E/TR910E)
R1874	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	(TR610E/TR760E/TR810E)
R1875	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R1876	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1877	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R1878	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R1880	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R1881	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1882	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1883	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1884	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R1887	1-216-830-11	METAL CHIP	5.6K	5%	1/16W	
R1888	1-216-836-11	METAL CHIP	18K	5%	1/16W	
R1889	1-217-671-11	METAL CHIP	1	5%	1/10W	
R1890	1-217-671-11	METAL CHIP	1	5%	1/10W	
R1891	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R1892	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R1893	1-216-817-11	METAL CHIP	470	5%	1/16W	
R1894	1-216-817-11	METAL CHIP	470	5%	1/16W	
R1895	1-216-800-11	METAL GLAZE	18	5%	1/16W	
R1896	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R1897	1-216-808-11	METAL CHIP	82	5%	1/16W	
R2051	1-216-835-11	METAL CHIP	15K	5%	1/16W	(TR710E/TR910E)
R2052	1-216-837-11	METAL CHIP	22K	5%	1/16W	(TR710E/TR910E)
R2053	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR710E/TR910E)
R2054	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR710E/TR910E)
R2055	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR710E/TR910E)
R2056	1-216-835-11	METAL CHIP	15K	5%	1/16W	(TR710E/TR910E)
R2058	1-216-835-11	METAL CHIP	15K	5%	1/16W	(TR710E/TR910E)
R2059	1-216-839-11	METAL CHIP	33K	5%	1/16W	(TR710E/TR910E)
R2060	1-216-821-11	METAL CHIP	1K	5%	1/16W	(TR710E/TR910E)
R2061	1-216-821-11	METAL CHIP	1K	5%	1/16W	(TR710E/TR910E)
R2062	1-216-821-11	METAL CHIP	1K	5%	1/16W	(TR710E/TR910E)
R2063	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	(TR710E/TR910E)
R2064	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	(TR710E/TR910E)
R2065	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	(TR710E/TR910E)
R2070	1-217-671-11	METAL CHIP	1	5%	1/10W	(TR710E/TR910E)
R2071	1-217-671-11	METAL CHIP	1	5%	1/10W	(TR710E/TR910E)
R2072	1-216-832-11	METAL CHIP	8.2K	5%	1/16W	(TR710E/TR910E)
R2073	1-216-832-11	METAL CHIP	8.2K	5%	1/16W	(TR710E/TR910E)

< THERMISTOR >

Ref.No.	Part No.	Description	Remark
TH1751	1-809-360-21	THERMISTOR, NTC (33K)	

< VIBRATOR >

Ref.No.	Part No.	Description	Remark
X1305	1-767-029-21	VIBRATOR, CRYSTAL (17MHz)	(TR610E:E/TR710E/TR910E)
X1601	1-760-321-11	VIBRATOR, CRYSTAL (28.375MHz)	
X1751	1-760-655-41	VIBRATOR, CRYSTAL (20MHz)	
X1752	1-767-031-21	VIBRATOR, CRYSTAL (11.719MHz)	

* A-7072-622-A VF-95 (VH4CP) BOARD, COMPLETE (TR710E/TR910E)

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(Ref. No. 5,000 Series)

< CAPACITOR >

Ref.No.	Part No.	Description				Remark
C851	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V	
C852	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C853	1-104-916-11	TANTAL. CHIP	6.8uF	20%	20V	
C854	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C855	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C856	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C857	1-164-676-11	CERAMIC CHIP	2200PF	5%	16V	
C858	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V	
C859	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C860	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	

VF-95

Ref.No.	Part No.	Description			Remark
C865	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C867	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C868	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C869	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C870	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C871	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C872	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V
C873	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C874	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C877	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C878	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C880	1-165-128-11	CERAMIC CHIP	0.22uF		16V

< CONNECTOR >

Ref.No.	Part No.	Description
CN851	1-766-350-21	CONNECTOR, FFC/FPC 20P
CN852	1-766-637-21	CONNECTOR, FFC/FPC 26P
CN853	1-573-305-11	CONNECTOR, BOARD TO BOARD 10P

< DIODE >

Ref.No.	Part No.	Description	
D851	8-719-951-21	DIODE	PR1102W-TR
D852	8-719-043-70	DIODE	MA6S121-(TX)
D853	8-719-802-36	DIODE	1SS250-TE85L

< IC >

Ref.No.	Part No.	Description	
IC851	8-759-097-75	IC	MB3789PFV-G-BND-ER
IC852	8-759-337-40	IC	NJM2904V(TE2)
IC853	8-759-080-34	IC	TA75W01FU-TE12R
IC854	8-759-082-60	IC	TC7S66FU(TE85R)
IC855	8-759-338-78	IC	BA10324AFV-E2
IC857	8-759-079-66	IC	TC74VHC123AFS(EL)

< COIL >

Ref.No.	Part No.	Description	
L853	1-412-033-11	INDUCTOR CHIP	220uH
L854	1-412-951-11	INDUCTOR	10uH

< TRANSISTOR >

Ref.No.	Part No.	Description	
Q851	8-729-822-05	TRANSISTOR	2SD1622-ST-TD
Q852	8-729-425-64	TRANSISTOR	2SD2216J-QR(TXD).SO
Q853	8-729-028-81	TRANSISTOR	DTA123JUA-T106
Q854	8-729-425-50	TRANSISTOR	2SB1462J-QR(TXD).SO
Q855	8-729-425-50	TRANSISTOR	2SB1462J-QR(TXD).SO
Q864	8-729-429-18	TRANSISTOR	UN9213J-(TXD).SO
Q865	8-729-429-18	TRANSISTOR	UN9213J-(TXD).SO
Q866	8-729-429-18	TRANSISTOR	UN9213J-(TXD).SO
Q870	8-729-425-64	TRANSISTOR	2SD2216J-QR(TXD).SO

< RESISTOR >

Ref.No.	Part No.	Description			Remark
R832	1-216-797-11	METAL CHIP	10	5%	1/16W
R836	1-216-809-11	METAL CHIP	100	5%	1/16W
R840	1-216-835-11	METAL CHIP	15K	5%	1/16W
R841	1-216-833-11	METAL CHIP	10K	5%	1/16W
R842	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R843	1-216-817-11	METAL CHIP	470	5%	1/16W
R844	1-216-150-91	METAL GLAZE	10	5%	1/8W
R846	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R849	1-216-833-11	METAL CHIP	10K	5%	1/16W
R850	1-216-833-11	METAL CHIP	10K	5%	1/16W
R851	1-216-819-11	METAL CHIP	680	5%	1/16W
R852	1-216-841-11	METAL CHIP	47K	5%	1/16W
R853	1-218-899-11	METAL CHIP	150K	0.50%	1/16W
R854	1-218-901-11	METAL CHIP	180K	0.50%	1/16W
R855	1-216-840-11	METAL CHIP	39K	5%	1/16W
R856	1-218-899-11	METAL CHIP	150K	0.50%	1/16W
R857	1-218-903-11	METAL CHIP	220K	0.50%	1/16W
R858	1-216-841-11	METAL CHIP	47K	5%	1/16W
R859	1-216-848-11	METAL CHIP	180K	5%	1/16W
R860	1-216-841-11	METAL CHIP	47K	5%	1/16W
R861	1-216-843-11	METAL CHIP	68K	5%	1/16W
R862	1-216-838-11	METAL CHIP	27K	5%	1/16W
R863	1-216-847-11	METAL CHIP	150K	5%	1/16W
R864	1-216-841-11	METAL CHIP	47K	5%	1/16W
R865	1-216-842-11	METAL CHIP	56K	5%	1/16W
R867	1-216-850-11	METAL CHIP	270K	5%	1/16W
R868	1-216-864-11	METAL CHIP	0	5%	1/16W
R869	1-216-843-11	METAL CHIP	68K	5%	1/16W
R870	1-216-842-11	METAL CHIP	56K	5%	1/16W
R871	1-216-850-11	METAL CHIP	270K	5%	1/16W
R872	1-216-833-11	METAL CHIP	10K	5%	1/16W
R873	1-216-851-11	METAL CHIP	330K	5%	1/16W
R874	1-216-847-11	METAL CHIP	150K	5%	1/16W
R875	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R878	1-216-841-11	METAL CHIP	47K	5%	1/16W
R879	1-216-837-11	METAL CHIP	22K	5%	1/16W
R880	1-216-845-11	METAL CHIP	100K	5%	1/16W
R881	1-216-853-11	METAL CHIP	470K	5%	1/16W
R882	1-216-821-11	METAL CHIP	1K	5%	1/16W
R884	1-216-845-11	METAL CHIP	100K	5%	1/16W
R885	1-216-833-11	METAL CHIP	10K	5%	1/16W
R886	1-216-838-11	METAL CHIP	27K	5%	1/16W
R887	1-216-841-11	METAL CHIP	47K	5%	1/16W
R888	1-216-857-11	METAL CHIP	1M	5%	1/16W
R889	1-216-845-11	METAL CHIP	100K	5%	1/16W
R890	1-216-845-11	METAL CHIP	100K	5%	1/16W
R891	1-216-296-91	CONDUCTOR, CHIP	(3216)		
R892	1-216-158-00	METAL GLAZE	22	5%	1/8W
R895	1-216-833-11	METAL CHIP	10K	5%	1/16W
R896	1-216-841-11	METAL CHIP	47K	5%	1/16W
R898	1-216-841-11	METAL CHIP	47K	5%	1/16W
R899	1-216-845-11	METAL CHIP	100K	5%	1/16W

Ref. No.	Part No.	Description	Remark
*	A-7072-623-A	VF-96 (VH4CP) BOARD, COMPLETE (TR710E/TR910E)	

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(Ref. No. 5,000 Series)

< CAPACITOR >

Ref. No.	Part No.	Description	Remark
C901	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C902	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C903	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C904	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C905	1-104-912-11	TANTAL. CHIP 3.3uF 20% 16V	
C906	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C907	1-104-912-11	TANTAL. CHIP 3.3uF 20% 16V	
C908	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C909	1-135-181-21	TANTALUM CHIP 4.7uF 20% 6.3V	
C910	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C911	1-135-181-21	TANTALUM CHIP 4.7uF 20% 6.3V	
C912	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C913	1-104-912-11	TANTAL. CHIP 3.3uF 20% 16V	
C914	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C916	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C917	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C918	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C919	1-135-181-21	TANTALUM CHIP 4.7uF 20% 6.3V	
C920	1-162-967-11	CERAMIC CHIP 0.0033uF 10% 50V	
C921	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V	
C922	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	
C924	1-164-505-11	CERAMIC CHIP 2.2uF 16V	
C925	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C927	1-135-178-11	TANTAL. CHIP 1.5uF 20% 20V	
C929	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C930	1-135-179-21	TANTAL. CHIP 2.2uF 20% 16V	
C931	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C932	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C933	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C934	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C935	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN901	1-766-658-21	CONNECTOR, FFC/FPC 22P	
CN902	1-573-925-11	CONNECTOR, FFC/FPC (ZIF) 16P	

< DIODE >

Ref. No.	Part No.	Description	Remark
D901	8-713-102-80	DIODE 1T369-01-T8A	

< IC >

Ref. No.	Part No.	Description	Remark
IC901	8-759-364-03	IC MB88146PFV-G-BND-ER	
IC902	8-752-058-95	IC CXA1515Q-T4	
IC904	8-752-378-00	IC CXD2411AR-T4	

< COIL >

Ref. No.	Part No.	Description	Remark
L901	1-412-951-11	INDUCTOR 10uH	
L902	1-412-951-11	INDUCTOR 10uH	
L903	1-412-959-11	INDUCTOR 47uH	
L904	1-412-955-11	INDUCTOR 22uH	
L905	1-412-949-21	INDUCTOR 6.8uH	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q901	8-729-425-50	TRANSISTOR 2SB1462J-QR(TXD).SO	
Q902	8-729-425-64	TRANSISTOR 2SD2216J-QR(TXD).SO	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R901	1-216-851-11	METAL CHIP 330K 5% 1/16W	
R902	1-216-844-11	METAL CHIP 82K 5% 1/16W	
R903	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R904	1-216-851-11	METAL CHIP 330K 5% 1/16W	
R905	1-216-851-11	METAL CHIP 330K 5% 1/16W	
R906	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R907	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R908	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R909	1-216-838-11	METAL CHIP 27K 5% 1/16W	
R911	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R912	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R913	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R914	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R915	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R917	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R921	1-218-905-11	METAL CHIP 270K 0.50% 1/16W	
R922	1-218-875-11	METAL CHIP 15K 0.50% 1/16W	
R923	1-216-849-11	METAL CHIP 220K 5% 1/16W	
R924	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R929	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	
R930	1-216-838-11	METAL CHIP 27K 5% 1/16W	
R934	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R935	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R936	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	

Ref. No.	Part No.	Description	Remark
*	A-7066-774-A	VF-99 (HP) BOARD, COMPLETE (TR610E/TR760E/TR810E)	

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(Ref. No. 5,000 Series)

< CAPACITOR >

Ref. No.	Part No.	Description	Remark
C901	1-107-854-11	TANTAL. CHIP 68uF 20% 6.3V	
C902	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C903	1-135-145-11	TANTALUM CHIP 0.47uF 10% 35V	
C904	1-162-965-11	CERAMIC CHIP 0.0015uF 10% 50V	
C905	1-104-752-11	TANTAL. CHIP 33uF 20% 6.3V	

VF-99

Ref. No.	Part No.	Description			Remark
C906	1-162-638-11	CERAMIC CHIP	1uF		16V
C907	1-104-563-11	FILM CHIP	0.1uF	5%	16V
C908	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C909	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
⚠C910	1-164-758-11	CERAMIC CHIP	0.0039uF	5%	50V
⚠C911	1-164-715-11	CERAMIC CHIP	0.0068uF	5%	50V
C912	1-107-854-11	TANTAL. CHIP	68uF	20%	6.3V
C913	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C914	1-107-689-21	TANTAL. CHIP	1uF	20%	35V
C915	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C916	1-164-611-11	CERAMIC CHIP	0.001uF	10%	500V

< CONNECTOR >

Ref. No.	Part No.	Description
CN901	1-573-506-41	CONNECTOR, FPC (NON ZIF) 4P
CN902	1-580-057-11	PIN, CONNECTOR 4P

< DIODE >

Ref. No.	Part No.	Description
D901	8-719-951-21	DIODE PR1102W-TR
D903	8-719-404-49	DIODE MA111

< IC >

Ref. No.	Part No.	Description
IC901	8-759-196-14	IC BA7149F-E2

< COIL >

Ref. No.	Part No.	Description
L901	1-412-031-11	INDUCTOR CHIP 47uH
L902	1-410-387-11	INDUCTOR CHIP 33uH
⚠L903	1-411-697-11	COIL, FERRITE (HLC)

< TRANSISTOR >

Ref. No.	Part No.	Description
Q901	8-729-230-63	TRANSISTOR 2SC4116-YG
Q902	8-729-106-68	TRANSISTOR 2SD1615A-GP
Q903	8-729-216-31	TRANSISTOR 2SA1163-G
Q904	8-729-230-63	TRANSISTOR 2SC4116-YG

< RESISTOR >

Ref. No.	Part No.	Description			Remark
R901	1-216-817-11	METAL CHIP	470	5%	1/16W
R902	1-216-817-11	METAL CHIP	470	5%	1/16W
R903	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R904	1-216-833-11	METAL CHIP	10K	5%	1/16W
R905	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R906	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R907	1-216-845-11	METAL CHIP	100K	5%	1/16W
R908	1-216-852-11	METAL CHIP	390K	5%	1/16W
R909	1-216-833-11	METAL CHIP	10K	5%	1/16W
R910	1-216-835-11	METAL CHIP	15K	5%	1/16W
R911	1-216-160-00	METAL GLAZE	27	5%	1/8W
R912	1-216-857-11	METAL CHIP	1M	5%	1/16W
R913	1-216-820-11	METAL CHIP	820	5%	1/16W
R914	1-216-813-11	METAL CHIP	220	5%	1/16W
R915	1-216-793-11	METAL GLAZE	4.7	5%	1/16W
R916	1-218-881-11	METAL CHIP	27K	0.50%	1/16W
R917	1-218-893-11	METAL CHIP	82K	0.50%	1/16W
R918	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R919	1-216-839-11	METAL CHIP	33K	5%	1/16W
R920	1-216-837-11	METAL CHIP	22K	5%	1/16W
R921	1-216-795-11	METAL GLAZE	6.8	5%	1/16W
R922	1-216-847-11	METAL CHIP	150K	5%	1/16W
R923	1-216-857-11	METAL CHIP	1M	5%	1/16W
R924	1-216-862-11	METAL GLAZE	2.7M	5%	1/16W
R925	1-216-862-11	METAL GLAZE	2.7M	5%	1/16W
R926	1-216-821-11	METAL CHIP	1K	5%	1/16W
R927	1-216-821-11	METAL CHIP	1K	5%	1/16W
R928	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R929	1-216-818-11	METAL CHIP	560	5%	1/16W

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description
RV903	1-238-852-11	RES, ADJ, CERMET 470
RV904	1-223-566-11	RES, ADJ, METAL GLAZE 1M

< TRANSFORMER >

Ref. No.	Part No.	Description
⚠T901	1-453-124-11	TRANSFORMER ASSY, FLYBACK

< THERMISTOR >

Ref. No.	Part No.	Description
TH901	1-809-350-21	THERMISTOR, NTC (2125)

< FLEXIBLE BOARD >

Ref. No.	Part No.	Description
⚠W901	1-540-019-21	SOCKET ASSY, CRT

MISCELLANEOUS
****

Ref. No.	Part No.	Description
52	1-473-604-11	SWITCH BLOCK, CONTROL (CF-6300)
159	1-660-301-11	FP-430 FLEXIBLE BOARD (TR710E/TR910E)
167	1-660-292-11	FP-394 FLEXIBLE BOARD (TR710E/TR910E)
202	1-661-547-11	FP-490 FLEXIBLE BOARD (TR610E/TR760E/TR810E)
252	1-660-278-11	FP-378 FLEXIBLE BOARD
256	1-660-279-11	FP-379 FLEXIBLE BOARD
257	1-660-277-11	FP-377 FLEXIBLE BOARD (EXCEPT TR760E)
259	1-660-302-11	FP-435 FLEXIBLE BOARD
261	1-660-286-11	FP-387 FLEXIBLE BOARD
262	1-660-283-11	FP-383 FLEXIBLE BOARD
263	1-660-300-11	FP-426 FLEXIBLE BOARD (TR760E/TR810E/TR910E)
267	1-660-298-11	FP-401 FLEXIBLE BOARD (TR760E/TR810E)
301	1-661-052-11	FP-457 FLEXIBLE BOARD
302	1-694-076-11	TERMINAL BOARD, BATTERY (TR610E/TR710E/TR910E)
302	1-694-076-21	TERMINAL BOARD, BATTERY (TR760E/TR810E)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description	Remark
309	1-547-787-61	FILTER BLOCK, OPTICAL	
312	1-660-531-11	FP-429 FLEXIBLE BOARD	
760	1-658-213-11	FP-355 FLEXIBLE BOARD	
762	1-657-786-11	FP-221 FLEXIBLE BOARD	
* 764	1-658-214-11	FP-356 FLEXIBLE BOARD	
803	1-657-785-11	FP-248 FLEXIBLE BOARD	
817	1-657-784-11	FP-220 FLEXIBLE BOARD	
BL002	1-517-528-11	LIGHT, BACK	
CN901	1-774-867-11	CONNECTOR, EXTERNAL (HOT SHOE) 8P	(TR760E/TR810E/TR910E)
D001	8-719-988-42	DIODE GL453	
IC401	A-7030-638-A	CCD BLOCK ASSY (CCD IMAGER)	(079 SERVICE)(TR760E)
IC401	A-7030-659-A	CCD BLOCK ASSY (CCD IMAGER)	(071 SERVICE)(EXCEPT TR760E)
J201	1-537-747-21	TERMINAL BOARD (TR760E/TR810E/TR910E)	
J201	1-537-747-41	TERMINAL BOARD (TR610E/TR710E)	
J902	1-565-276-21	JACK, ULTRA SMALL 1P (LANC)	
J903	1-695-514-21	JACK (SMALL TYPE) 1P (HEADPHONES)	
LCD901	1-801-207-11	DISPLAY PANEL, LIQUID CRYSTAL	
LCD902	8-753-015-20	LCX005BK-1 (TR710E/TR910E)	
M901	A-7048-810-A	DRUM ASSY (DGH-0C4A-R)	
M902	8-835-531-01	MOTOR, DC SCE0601A (CAPSTAN)	
M903	X-3945-401-1	MOTOR ASSY, DC (LOADING)	
M905	1-698-760-01	MOTOR, FOCUS STEPPING	
M906	1-698-759-01	MOTOR, ZOOM STEPPING	
MIC901	1-542-259-11	MICROPHONE, CAP	
MIC902	1-542-259-11	MICROPHONE, CAP	
⚠ND801	1-517-414-21	FLUORESCENT TUBE (0.55 INCH)	(TR710E/TR910E)
S001	1-692-614-11	SWITCH, PUSH (3 KEY)	(HI8 MP, ME/MP, REC PROOF)
S002	1-572-688-11	SWITCH, PUSH (1 KEY)(C.C. LOCK)	
S901	1-762-436-15	SWITCH, ROTARY (ENCODER)	
S903	1-571-315-11	SWITCH, KEY BOARD (START/STOP)	
S904	1-553-977-00	SWITCH, SLIDE (STANDBY, LOCK)	
⚠V901	1-452-673-31	CRT ASSY (M01KXX90WB)	(TR610E/TR760E/TR810E)

ACCESSORIES & PACKING MATERIALS
****

Ref.No.	Part No.	Description	Remark
	1-467-574-21	REMOTE COMMANDER (RMT-708)	(TR610E/TR710E)
⚠	1-569-008-11	ADAPTOR, CONVERSION 2P	(TR610E:E/TR710E:E/TR910E:E, HK, JE)
	1-573-291-11	CONNECTOR, CONVERSION	(TR610E:AEP, UK/TR760E/TR810E)
	1-575-334-11	CORD, CONNECTION	(A/V connecting cable (STEREO) 1.5m)
	1-769-166-31	CORD, CONNECTION (TR760E/TR810E)	(AC POWER ADAPTOR connecting cable, 2.1m)
	3-856-186-11	MANUAL, INSTRUCTION (ENGLISH, SPANISH)	(TR610E:AEP2, UK/TR810E)
	3-856-186-41	MANUAL, INSTRUCTION (GERMAN, ITALIAN)	(TR610E:AEP1, 3/TR810E:AEP)
	3-856-186-51	MANUAL, INSTRUCTION (FRENCH, DUTCH)	(TR610E:AEP3/TR810E:AEP)
	3-856-186-61	MANUAL, INSTRUCTION (SWEDISH, PORTUGUESE)	(TR610E:AEP2/TR810E:AEP)
	3-856-186-71	MANUAL, INSTRUCTION (ENGLISH, RUSSIAN)	(TR610E:AEP1, 2)
	3-856-187-11	MANUAL, INSTRUCTION (ENGLISH, RUSSIAN)	(TR610E:E/TR710E/TR910E)
	3-856-187-21	MANUAL, INSTRUCTION (FRENCH, GERMAN)	(TR610E:E/TR710E:E/TR910E:E, HK, JE)
	3-856-187-31	MANUAL, INSTRUCTION (ARABIC, PERSIAN)	(TR610E:E/TR710E:E/TR910E:E)
	3-856-187-41	MANUAL, INSTRUCTION (CHINESE)	(TR610E:E/TR710E:E/TR910E:E, HK, JE)
	3-856-188-11	MANUAL, INSTRUCTION (ENGLISH, SPANISH)	(TR760E)
	3-856-188-21	MANUAL, INSTRUCTION (GERMAN, ITALIAN)	(TR760E:AEP)
	3-856-188-31	MANUAL, INSTRUCTION (FRENCH, DUTCH)	(TR760E:AEP)
	3-856-188-41	MANUAL, INSTRUCTION (SWEDISH, PORTUGUESE)	(TR760E:AEP)
	3-947-969-21	BELT (S), SHOULDER	
*	3-968-806-01	CUSHION, ACC (EXCEPT TR760E)	
*	3-968-807-01	CUSHION (LOWER)(EXCEPT TR760E)	
*	3-968-808-01	INDIVIDUAL CARTON (TR810E)	
*	3-968-808-31	INDIVIDUAL CARTON (TR610E:AEP, UK)	
*	3-968-808-41	INDIVIDUAL CARTON (TR910E)	
*	3-968-808-51	INDIVIDUAL CARTON (TR710E)	
*	3-968-808-61	INDIVIDUAL CARTON (TR610E:E)	
*	3-971-129-01	INDIVIDUAL CARTON (TR760E)	
*	3-971-130-01	CUSHION, ACC (TR760E)	
*	3-971-131-01	CUSHION (LOWER)(TR760E)	
	8-917-540-90	REMOCON RMT-715//M SET (TR910E)	
	8-917-541-90	REMOCON RMT-716//M SET (TR760E/TR810E)	
⚠	A-7009-234-A	AC POWER ADAPTOR (AC-V316)	(TR610E:E, AEP/TR710E/TR910E:E, AUS, JE)
⚠	A-7009-235-A	AC POWER ADAPTOR (AC-V316)(TR610E:UK)	
⚠	A-7009-237-A	AC POWER ADAPTOR (AC-V316)	(TR710E:AUS/TR910E:AUS)
⚠	A-7009-238-A	AC POWER ADAPTOR (AC-V316)(TR910E:HK)	
⚠	A-7009-240-A	AC POWER ADAPTOR (AC-V315)	(TR760E:UK/TR810E:UK)
⚠	A-7009-241-A	AC POWER ADAPTOR (AC-V315)	(TR760E:AEP/TR810E:AEP)
	A-7092-699-A	CASE (L) ASSY, BATTERY	(TR610E:AEP, UK/TR760E/TR810E)
**	NP-F530	BATTERY PACK	

NOTE.

** MARK PARTS IS AVAILABLE AS AN OPTIONAL ACCESSORY.

Be sure to read "Note on the CCD Imager replacement" on page 4-8 when changing the CCD imager.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

SECTION 6
ADJUSTMENTS

6-1. CAMERA SECTION ADJUSTMENTS

Refer to page 2 as for "Table for difference of functions" of models and classiffication.

1-1. PREPARATIONS BEFORE ADJUSTMENT (CAMERA SECTION)

1-1-1. List of Service Tools

- Oscilloscope
- Adjusting driver
- Color monitor
- Regulated power supply
- Vectorscope
- Digital voltmeter

Ref. No.	Name	Parts Code	Usage
J-1	Filter for color temperature correction (C14)	J-6080-058-A	Auto white balance adjustment/check White balance adjustment/check
J-2	ND filter 1.0	J-6080-808-A	White balance check
	ND filter 0.3	J-6080-818-A	White balance check
J-3	Pattern box PTB-450	J-6082-200-A	
J-4	Color chart for pattern box	J-6020-250-A	
J-5	Adjusting remote commander (RM-95-remodeled partly)Note 1	J-6082-053-B	
J-6	Siemens star	J-6080-875-A	For checking the flange back
J-7	CPC-5 jig	J-6082-351-A	For the color viewfinder adjustment For adjusting the video section
J-8	Power code	J-6082-223-A	For connecting the battery terminal and DC power supply
J-9	AFM DEV jig	J-6082-312-A	For adjusting the deviation
J-10	Extension cable (60P, 0.5 mm)	J-6080-356-A	For extension between the HI-39 board (CN501) and VC-177 board (CN110)
J-11	Clear chart	J-6080-621-A	
J-12	Extension cable (16P, 0.5 mm)	J-6082-357-A	For extension between the CD-148 board (CN112) and VC-177 board (CN112)
J-13	EZ clip jig	J-6082-244-A	For extension between the EZ-21 board (CN201) and the handycam station

Note 1: If the micro processor IC in the adjusting remote commander is not the new micro processor (UPD7503G-C56-12), the pages cannot be switched. In this case, replace with the new micro processor (8-759-148-35).

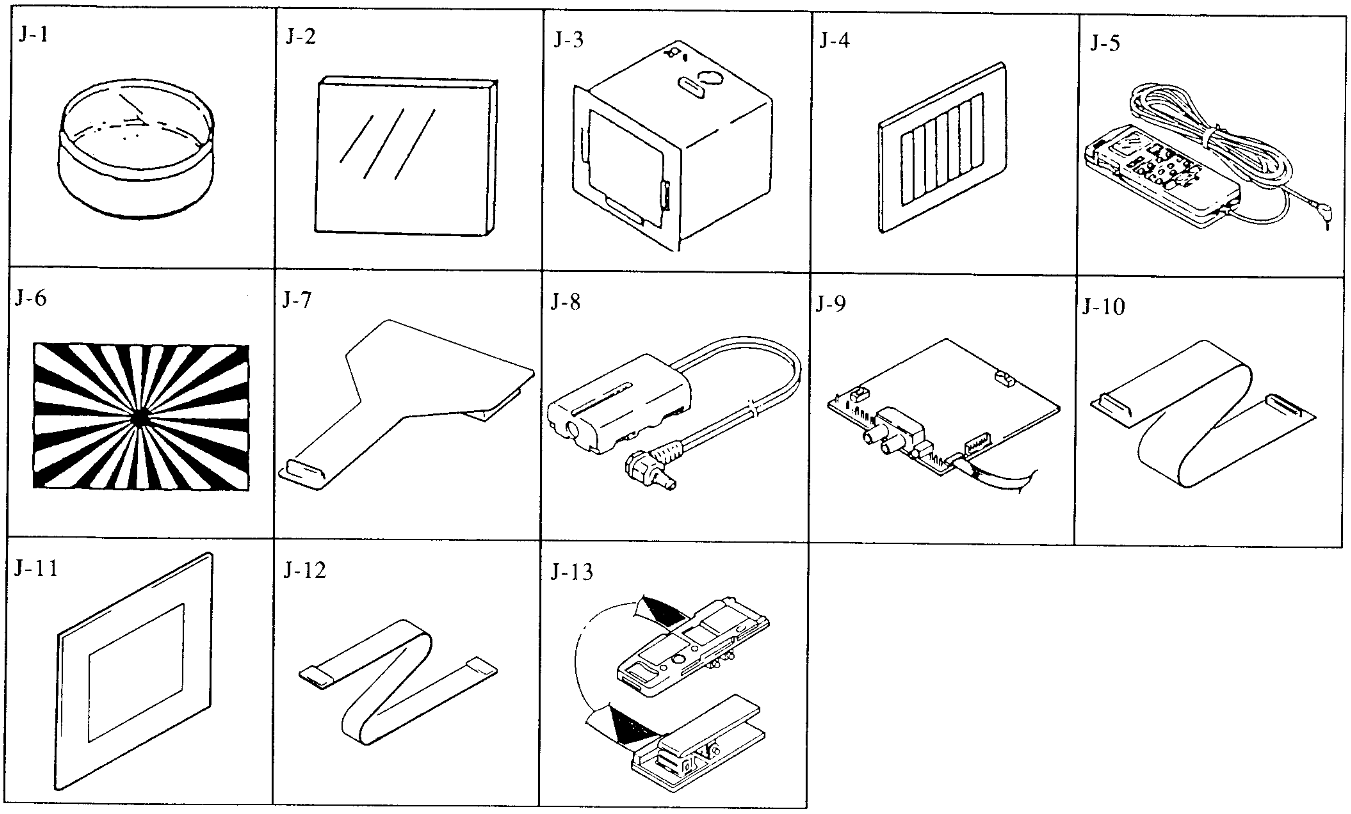

J-1
J-2
J-3
J-4
J-5
J-6
J-7
J-8
J-9
J-10
J-11
J-12
J-13

Fig. 6-1-1.

1-1-2. Preparations

Note 1: Refer to "Section 2. DISASSEMBLY" for details of how to remove the cabinet and boards.

Note 2: If performing only adjustments, the lens block and VC-177 board need not be adjusted.

1) Connect the adjusting equipment according to Fig. 6-1-3.
2) The F panel block (MA-268 board) is not needed to connect to the unit. Disconnect the following connectors when removing the F panel block.
   1. CN107 of VC-177 board (14P, 0.5 mm)
3) By setting the "forced camera power ON mode", the camera power supply can be turned on even if the camera power supply (R) (CF block, LC-52 board) has been removed. However, focus operations cannot be performed. Disconnect the following connectors when removing the cabinet (R).
   1. CN111 of VC-177 board (20P, 0.5 mm)
   2. CN502 of HI-39 board (24P, 0.5 mm)

After the adjustments, be sure to exit the "forced camera power supply ON mode".

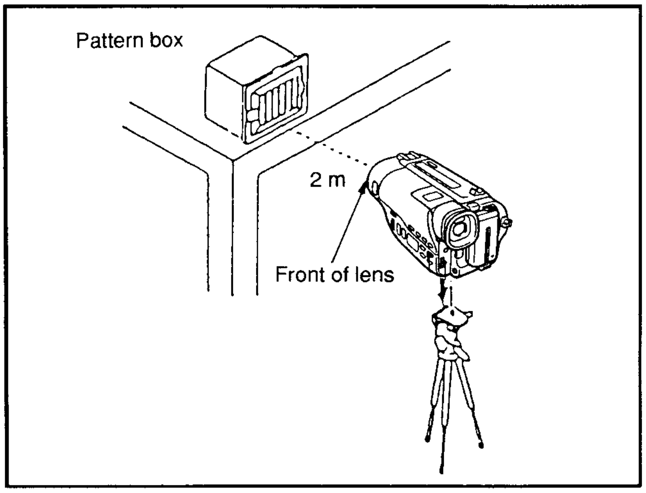


Fig. 6-1-3.

Note 3: Setting the "forced camera power supply ON mode"
1) Set data: 01 to page: 0, address: 01.
2) Set data: 21 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.

The camera power supply can be turned ON even if the cabinet (R) has been removed using the above steps. After completing adjustments, be sure to exit the "forced power supply ON mode".

Note 4: Exiting the "forced camera ON mode"
1) Set data: 01 to page: 0, address: 01.
2) Set data: 00 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
3) Set data: 00 to page: 1, address: 01.

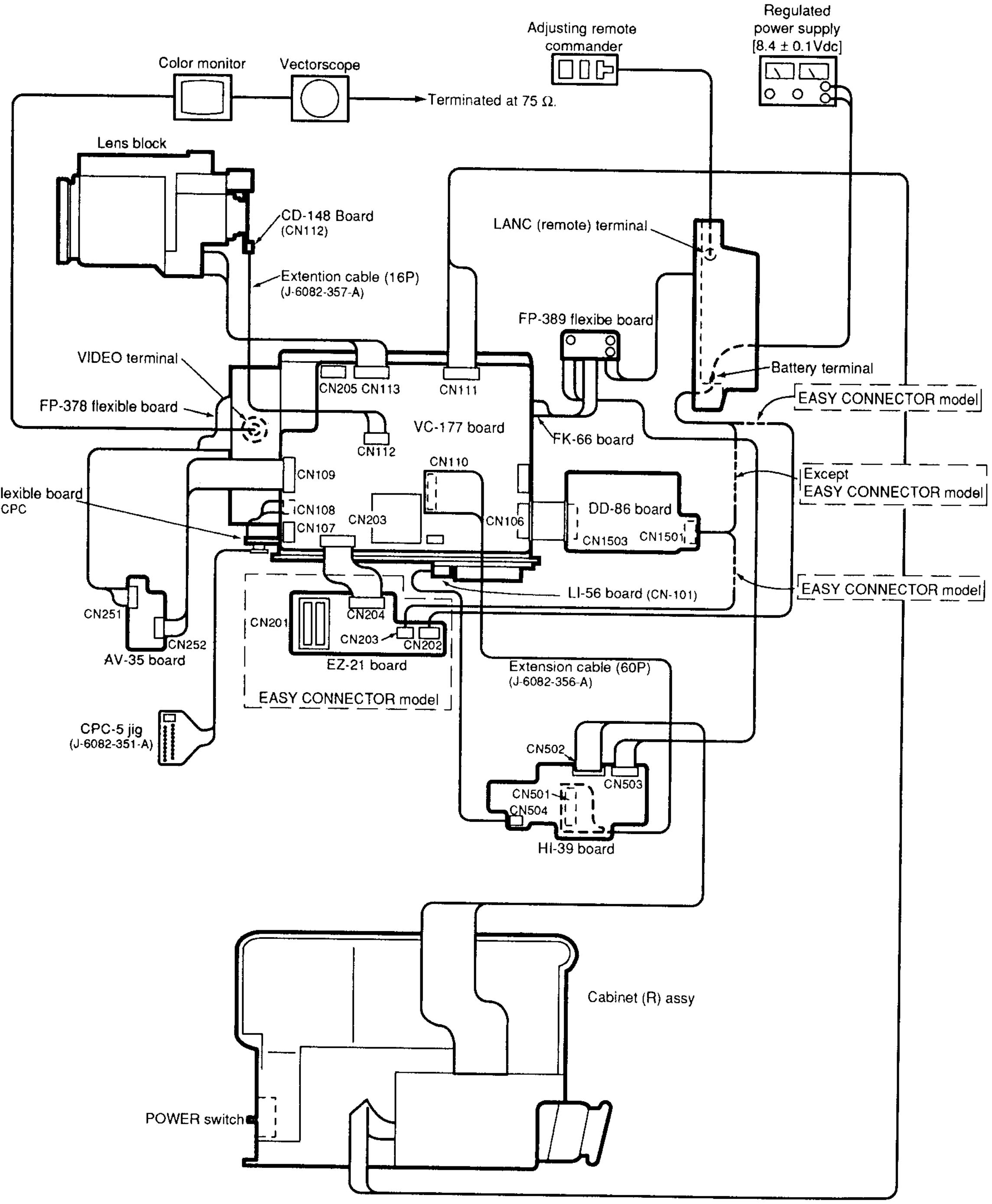

Adjusting remote commander
Regulated power supply [8.4 ± 0.1Vdc]
Color monitor
Vectorscope
Terminated at 75 Ω.
Lens block
CD-148 Board (CN112)
Extention cable (16P) (J-6082-357-A)
LANC (remote) terminal
FP-389 flexibe board
VIDEO terminal
Battery terminal
FP-378 flexible board
CN205 CN113
CN111
EASY CONNECTOR model
VC-177 board
CN112
FK-66 board
CN110
CN109
Except EASY CONNECTOR model
FP-379 flexible board
CPC
CN108
CN203
CN106
DD-86 board
CN107
CN1503
CN1501
LI-56 board (CN-101)
EASY CONNECTOR model
CN251
CN201
CN204
CN203
CN202
CN252
AV-35 board
EZ-21 board
Extension cable (60P) (J-6082-356-A)
EASY CONNECTOR model
CPC-5 jig (J-6082-351-A)
CN502
CN503
CN501
CN504
HI-39 board
Cabinet (R) assy
POWER switch

Fig. 6-1-4.

1-1-3. Precautions

1. Switch settings

Adjust the switches to the following positions, and adjust without loading the cassette tape, unless specified otherwise.

1. Camera/player power switch (S101 on CF block) .... Camera
2. Digital zoom switch (Menu display) .... Off
3. Steady shot switch (S103 on CF block) .... Off (STEADY SHOT model)
4. Focus switch (S102 on CF block) .... Manual
5. Back light switch (S106 on CF block) .... Off
6. 16:9 WIDE button (S114 on CF block) .... Off
7. Picture effect button (S112 on CF block) .... Off

2. Adjusting Procedure

Adjust in the given order.

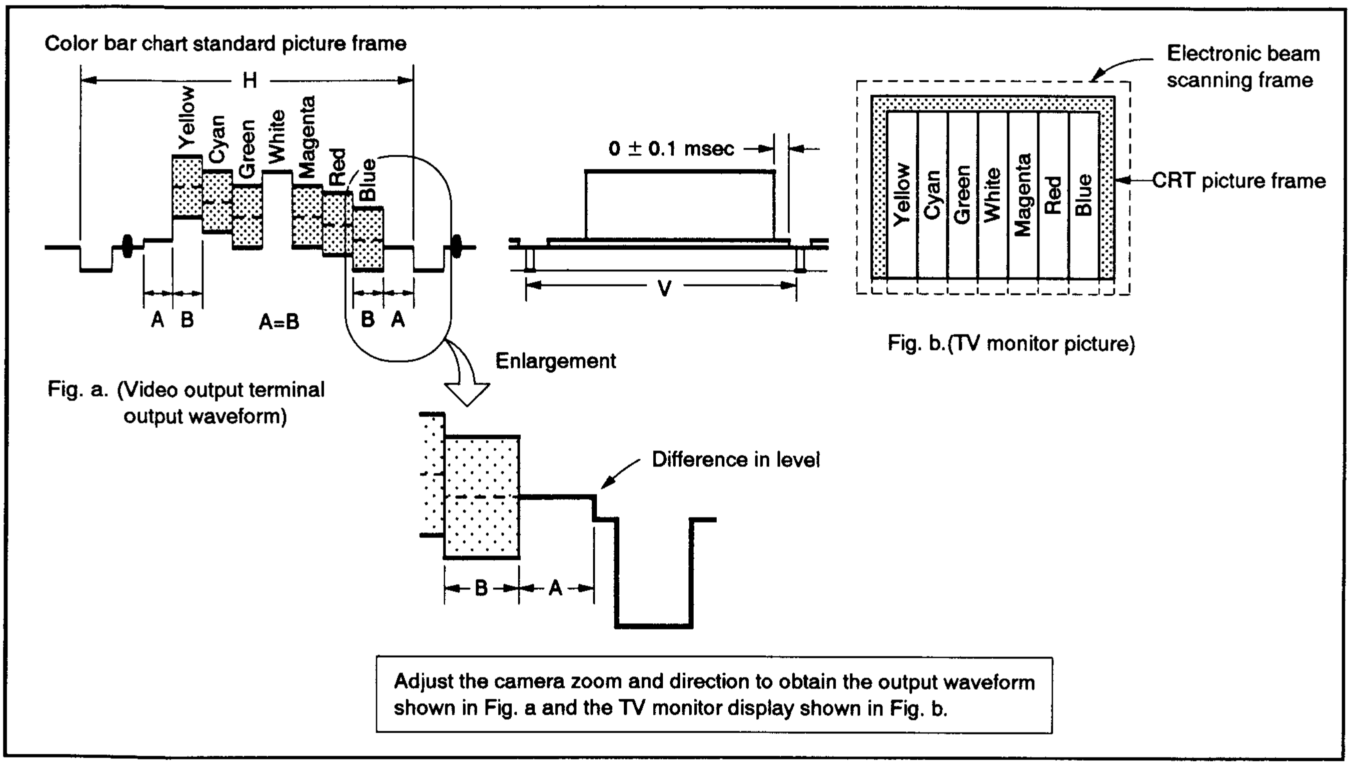

Color bar chart standard picture frame
H
Yellow
Cyan
Green
White
Magenta
Red
Blue
A B
A=B
B A
Fig. a. (Video output terminal output waveform)
0 ± 0.1 msec
V
Enlargement
Difference in level
B
A
Electronic beam scanning frame
CRT picture frame
Yellow
Cyan
Green
White
Magenta
Red
Blue
Fig. b.(TV monitor picture)
Adjust the camera zoom and direction to obtain the output waveform shown in Fig. a and the TV monitor display shown in Fig. b.

Fig. 6-1-4.

3. Subject

1) Color bar chart (Standard picture frame)
   Adjust the picture frame as shown in Fig. 6-1-4. if adjustments are performed using the color bar chart. (Standard picture frame)
2) White pattern (Standard picture frame)
   Remove the color bar chart from the pattern box, and insert a clear chart in its place. (Do not perform zoom operations during this time.)
3) Chart for flange back adjustment
   Combine a white A0 size (1189 mm x 841 mm) paper to a black one, and make the chart shown in Fig. 6-1-5.

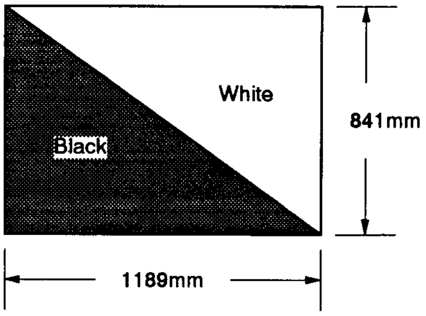

White
Black
841mm
1189mm

Fig. 6-1-5.

Note: Use the non-reflecting and non-glazing vellum paper whose size is more than A0, and make the boundary between white and black to be smoothly flat.

1-1-4. Adjusting Remote Commander

The adjusting remote commander is used for changing the calculation coefficient in signal processing, EVR data, etc. The adjusting remote commander performs bi-directional communication with the unit using the remote commander signal line (LANC). The resultant data of this bi-directional communication is written in the non-volatile memory.

1. Using the adjusting remote commander

1) Connect the adjusting remote commander to the remote terminal.
2) Adjust the HOLD switch of the adjusting remote commander to "HOLD" (SERVICE position).

If it has been properly connected, the LCD on the adjusting remote commander will display as shown in Fig. 6-1-6.

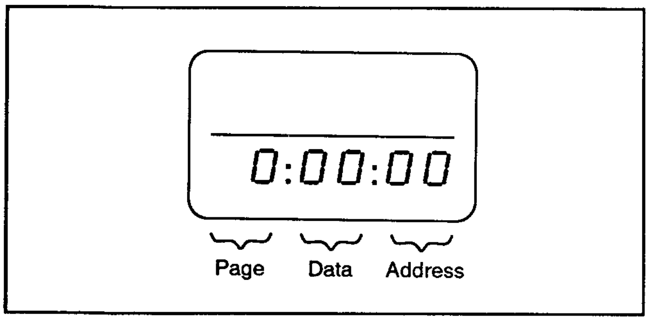


Fig. 6-1-6.

3) Operate the adjusting remote commander as follows.
   - Changing the page

     The page increases when the EDIT SEARCH+ button is pressed, and decreases when the EDIT SEARCH– button is pressed. There are altogether 16 pages, from 0 to F.

Hexadecimal notation	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
LCD Display	0	1	2	3	4	5	6	7	8	9	A	b	c	d	E	F
Decimal notation conversion value	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Table 6-1-1.

   - Changing the address

     The address increases when the FF (▶▶) button is pressed, and decreases when the REW (◀◀) button is pressed. There are altogether 256 addresses, from 00 to FF.
   - Changing the data (Data setting)

     The data increases when the PLAY (▷) button is pressed, and decreases when the STOP (■) button is pressed.

     There are altogether 256 data, from 00 to FF.
   - Writing the adjustment data

     The PAUSE button must be pressed to write the adjustment data (F page) in the nonvolatile memory. (The new adjustment data will not be recorded in the nonvolatile memory if this step is not performed.)
4) Select page: 0, address: 01, and set the data to 01, and enables Page D and E, F to be adjusted.
5) After completing all adjustments, set data: 00 to page: 0, address: 01 and turn off the main power supply (8.4V) once.

2. Precautions upon using the adjusting remote commander

Mishandling of the adjusting remote commander may erase the correct adjustment data at times. To prevent this, it is recommended that all adjustment data be noted down before beginning adjustments and new adjustment data after each adjustment.

1-1-5. Page F Addrress

Note 1: The ← mark shown in the adjustment data memory column indicates that the address data is fixed and is the same as the initial value.

Note 2: The initial adjustment data value is the value after "Page F, Page E Data Initialization" and "Page F Data Modification" have been executed. It is different from the value after all adjustments have been executed.

Note 3: ( ): AEP, UK model (TYPE A/D/E)

[ ]: E, Australian, Hong Kong, Chinese, Tourist model (TYPE B/C/F)

Address	Adjustment Data					
	Initial Value					Memo Column
	CCD-TR910E	CCD-TR810E	CCD-TR760E, CC867	CCD-TR710E	CCD-TR610E	
00	A6	A6	AA	A8	A8	
01						
02	04	02	02	04	(02)[04]	
03						
04						
05	BA	BA	BA	BA	BA	
06	B8	B8	B8	B8	B8	
07	5E	5E	5E	5E	5E	
08	47	47	3E	47	47	
09	58	58	53	58	58	
0A	6B	6B	69	6B	6B	
0B	8E	8E	93	8E	8E	
0C						
0D						
0E						
0F						
10	00	00	00	00	00	
11	00	00	00	00	00	
12	00	00	00	00	00	
13	00	00	00	00	00	
14	00	00	00	00	00	
15	00	00	00	00	00	
16	00	00	00	00	00	
17	00	00	00	00	00	
18	00	00	00	00	00	
19	00	00	00	00	00	
1A	00	00	00	00	00	
1B	00	00	00	00	00	
1C	77	57	53	77	57	←
1D	00	00	00	00	00	←
1E	21	21	21	21	21	←
1F	12	12	12	12	12	←
20	02	02	02	02	02	←
21	40	40	40	40	40	←
22	3B	3B	3B	3B	3B	
23	00	00	00	00	00	←
24	7C	7C	7C	7C	7C	←
25	80	80	80	80	80	←

Table 6-1-2 (1).

Address	Adjustment Data					
	Initial Value					Memo Column
	CCD-TR910E	CCD-TR810E	CCD-TR760E, CC867	CCD-TR710E	CCD-TR610E	
26	1F	1F	1F	1F	1F	←
27	[41]	(40)	(40)	[41]	(40)[41]	←
28	46	46	46	44	44	←
29	00	00	00	00	00	
2A	FE	FE	FE	FE	FE	
2B	3B	3B	3B	3B	3B	
2C	77	77	77	77	77	
2D	56	56	56	56	56	
2E	A6	A6	A6	A6	A6	
2F	1A	1A	1A	1A	1A	
30	15	15	15	15	15	
31	24	24	24	24	24	
32	8C	8C	8C	8C	8C	
33	11	11	11	11	11	
34	00	00	00	00	00	
35	00	00	00	00	00	
36	00	00	00	00	00	
37	0A	0A	0A	0A	0A	
38	15	15	15	15	15	
39	81	81	81	81	81	
3A	A0	A0	A0	A0	A0	
3B	80	80	80	80	80	
3C	80	80	80	80	80	
3D	30	30	30	30	30	
3E	1B	1B	1B	1B	1B	
3F	1B	1B	1B	1B	1B	
40	AE	AE	AE	AE	AE	
41	42	42	42	42	42	
42	44	44	44	44	44	
43	34	34	34	34	34	
44	2A	2A	2A	2A	2A	
45	89	89	89	89	89	
46	59	59	59	59	59	
47	38	38	38	38	38	
48	41	41	41	41	41	
49	25	25	25	25	25	
4A	00	00	00	00	00	
4B	19	19	19	19	19	
4C	00	00	00	00	00	
4D	16	16	16	16	16	
4E	00	00	00	00	00	
4F	36	36	36	36	36	
50	7B	7B	7B	7B	7B	
51	9D	9D	9D	9D	9D	

Table 6-1-2 (2).

Address	Adjustment Data					
	Initial Value					Memo Column
	CCD-TR910E	CCD-TR810E	CCD-TR760E, CC867	CCD-TR710E	CCD-TR610E	
52	80	80	80	80	80	
53	80	80	80	80	80	
54	00	00	00	00	00	
55	00	00	00	00	00	
56	00	00	00	00	00	←
57	00	00	00	00	00	←
58	00	00	00	00	00	←
59	BB	BB	BB	BB	BB	←
5A	C8	C8	C8	C8	C8	←
5B	CA	CA	CA	CA	CA	←
5C	3C	3C	3C	3C	3C	
5D	00	00	00	00	00	←
5E	7A	7A	7A	7A	7A	
5F	8D	8D	8D	8D	8D	
60	7A	7A	7A	7A	7A	
61	3A	3A	3A	3A	3A	←
62	B0	B0	B0	B0	B0	
63	00	00	00	00	00	
64	AA	AA	AA	AA	AA	
65	30	30	30	30	30	←
66	60	60	60	60	60	
67	7C	7C	7C	7C	7C	
68	60	60	60	60	60	←
69	40	40	40	40	40	←
6A	20	20	20	20	20	←
6B	F8	F8	F8	F8	F8	←
6C	80	80	80	80	80	←
6D	15	15	15	15	15	←
6E	47	47	47	47	47	←
6F	20	20	20	20	20	←
70	70	70	70	70	70	
71	70	70	70	70	70	
72	70	70	70	70	70	
73	70	70	70	70	70	
74	6B	6B	6B	80	80	
75	78	78	78	80	80	
76	B8	B8	B8	B8	B8	
77	B8	B8	B8	B8	B8	
78	B8	B8	B8	B8	B8	
79	B8	B8	B8	B8	B8	
7A	7E	7E	7E	7E	7E	
7B	7E	7E	7E	7E	7E	
7C	7E	7E	7E	7E	7E	
7D	7E	7E	7E	7E	7E	

Table 6-1-2 (3).

Address	Adjustment Data					
	Initial Value					Memo Column
	CCD-TR910E	CCD-TR810E	CCD-TR760E, CC867	CCD-TR710E	CCD-TR610E	
7E	98	98	98	80	80	
7F	80	80	80	80	80	
80	D4	D4	D4	D4	D4	←
81	80	80	80	80	80	←
82	0C	0C	0C	0C	0C	←
83	01	01	01	01	01	←
84	77	77	77	77	77	←
85	40	40	40	40	40	←
86	75	75	75	75	75	←
87	83	83	83	73	83	←
88	12	12	12	12	12	←
89	8A	8A	8A	8A	8A	←
8A	A5	A5	A5	A5	A5	←
8B	68	68	68	68	68	←
8C	4A	4A	4A	4A	4A	←
8D	F0	F0	F0	F0	F0	←
8E	00	00	00	00	00	←
8F	01	01	01	01	01	←
90	28	28	28	28	28	←
91	60	60	60	17	17	←
92	40	40	40	40	40	←
93	29	29	29	39	39	←
94	28	28	28	28	28	←
95	70	70	70	38	38	←
96	40	40	40	40	40	←
97	25	25	25	20	20	←
98	28	28	28	28	28	←
99	80	80	80	39	39	←
9A	40	40	40	40	40	←
9B	10	10	10	30	30	←
9C	28	28	28	28	28	←
9D	FF	FF	FF	60	60	←
9E	40	40	40	40	40	←
9F	10	10	10	30	30	←
A0	28	28	28	28	28	←
A1	70	70	70	B0	B0	←
A2	30	30	30	30	30	←
A3	00	00	00	0C	0C	←
A4	28	28	28	28	28	←
A5	E0	E0	E0	E0	E0	←
A6	30	30	30	30	30	←
A7	00	00	00	00	00	←
A8	60	60	60	60	60	←
A9	91	91	91	91	91	←

Table 6-1-2 (4).

Address	Adjustment Data					
	Initial Value					Memo Column
	CCD-TR910E	CCD-TR810E	CCD-TR760E, CC867	CCD-TR710E	CCD-TR610E	
AA	70	70	70	70	70	←
AB	92	92	92	92	92	←
AC	70	70	70	70	70	←
AD	A2	A2	A2	A2	A2	←
AE	70	70	70	70	70	←
AF	A3	A3	A3	A3	A3	←
B0	04	04	04	04	04	←
B1	D5	D5	D5	D5	D5	←
B2	04	04	04	04	04	←
B3	D6	D6	D6	D6	D6	←
B4	40	40	40	40	40	←
B5	00	00	00	00	00	←
B6	B3	B3	B3	B3	B3	←
B7	B3	B3	B3	B3	B3	←
B8	10	10	10	10	10	←
B9	01	01	01	01	01	←
BA	10	10	10	10	10	←
BB	03	03	03	03	03	←
BC	40	40	40	40	40	←
BD	32	32	32	32	32	←
BE	00	00	00	00	00	←
BF	00	00	00	00	00	←
C0	22	22	22	22	22	←
C1	80	80	80	80	80	←
C2	22	22	22	22	22	←
C3	20	20	20	20	20	←
C4	40	40	40	40	40	←
C5	00	00	00	00	00	←
C6	40	40	40	40	40	←
C7	00	00	00	00	00	←
C8	00	00	00	00	00	←
C9	27	27	27	27	27	←
CA	CA	CA	CA	CA	CA	←
CB	00	00	00	00	00	←
CC	40	40	40	40	40	←
CD	C4	C4	C4	C4	C4	←
CE	1B	1B	1B	1B	1B	←
CF	D8	D8	D8	D8	D8	←
D0	A0	A0	A0	A0	A0	←
D1	28	28	28	28	28	←
D2	1A	1A	1A	1A	1A	←
D3	C0	C0	C0	C0	C0	←
D4	6A	6A	6A	6A	6A	←
D5	60	60	60	60	60	←

Table 6-1-2 (5).

Address	Adjustment Data					
	Initial Value					Memo Column
	CCD-TR910E	CCD-TR810E	CCD-TR760E, CC867	CCD-TR710E	CCD-TR610E	
D6	55	55	55	55	55	←
D7	55	55	55	55	55	←
D8	66	66	66	66	66	←
D9	25	25	25	25	25	←
DA	34	34	34	34	34	←
DB	3F	3F	3F	3F	3F	←
DC	A0	A0	A0	A0	A0	←
DD	00	00	00	00	00	←
DE	80	80	80	80	80	←
DF	00	00	00	00	00	
E0	F5	F5	F5	F5	F5	
E1	1A	1A	1A	1A	1A	
E2	33	33	33	33	33	
E3	FE	FE	FE	FE	FE	
E4	3C	3C	3C	3C	3C	
E5	24	24	24	24	24	
E6	83	83	83	83	83	
E7	A0	A0	A0	A0	A0	
E8	67	67	67	67	67	
E9	4D	4D	4D	4D	4D	
EA	33	33	33	33	33	
EB	5C	5C	5C	5C	5C	
EC	5C	5C	5C	5C	5C	
ED	5C	5C	5C	5C	5C	
EE	3C	3C	3C	3C	3C	
EF	0F	0F	0F	0F	0F	
F0	10	10	10	10	10	
F1	2C	2C	2C	2C	2C	
F2	0A	0A	0A	0A	0A	
F3	36	36	36	36	36	
F4	72	72	72	72	72	
F5	46	46	46	46	46	
F6	E0	E0	E0	E0	E0	
F7	50	50	50	50	50	
F8	3B	3B	3B	3B	3B	
F9	14	14	14	14	14	
FA	E8	E8	E8	E8	E8	
FB	90	90	90	90	90	
FC	00	00	00	00	00	
FD	02	02	02	02	02	
FE	F3	F3	F3	F3	F3	
FF	A0	A0	A0	A0	A0	

Table 6-1-2 (6).

1-1-6. Page E Addrress

Note 1: The ← mark shown in the adjustment data memory column indicates that the address data is fixed and is the same as the initial value.

Note 2: The initial adjustment data value is the value after "Page F, Page E Data Initialization" and "Page E Data Modification" have been executed. It is different from the value after all adjustments have been executed.

Address	Adjustment Data					
	Initial Value					Memo Column
	CCD-TR910E	CCD-TR810E	CCD-TR760E, CC867	CCD-TR710E	CCD-TR610E	
00	69	69	69	69	69	←
01	89	89	89	89	89	←
02	15	15	15	15	15	←
03	52	52	52	52	52	←
04	61	61	61	61	61	←
05	6C	6C	6C	6C	6C	←
06	93	93	93	93	93	←
07	AA	AA	AA	AA	AA	←
08	65	65	65	65	65	←
09	44	44	44	44	44	←
0A	A2	A2	A2	A2	A2	←
0B	92	92	92	92	92	←
0C	63	63	63	63	63	←
0D	40	40	40	40	40	←
0E	61	61	61	61	61	←
0F	33	33	33	33	33	←
10	05	05	05	05	05	←
11	F3	F3	F3	F3	F3	←
12	00	00	00	00	00	←
13	00	00	00	00	00	←
14	00	00	00	00	00	←
15	20	20	20	20	20	←
16	2A	2A	2A	2A	2A	←
17	EB	EB	EB	EB	EB	←
18	1F	1F	1F	1F	1F	←
19	00	00	00	00	00	←
1A	42	42	42	42	42	←
1B	30	30	30	30	30	←
1C	53	53	53	53	53	←
1D	31	31	31	31	31	←
1E	F8	F8	F8	F8	F8	←
1F	00	00	00	00	00	←
20	37	37	2A	37	37	←
21	7C	7C	7E	7C	7C	←
22	9F	9F	A8	9F	9F	←
23	00	00	00	00	00	←
24	00	00	00	00	00	←
25	00	00	00	00	00	←
26	30	30	01	30	30	←
27	50	50	40	50	50	←

Table 6-1-3 (1).

Address	Adjustment Data					
	Initial Value					Memo Column
	CCD-TR910E	CCD-TR810E	CCD-TR760E, CC867	CCD-TR710E	CCD-TR610E	
28	E0	E0	40	E0	E0	←
29	00	00	00	00	00	←
2A	00	00	00	00	00	←
2B	00	00	00	00	00	←
2C	10	10	10	10	10	←
2D	20	20	20	20	20	←
2E	25	25	25	25	25	←
2F	79	79	79	79	79	←
30	00	00	00	00	00	←
31	00	00	00	00	00	←
32	00	00	00	00	00	←
33	00	00	00	00	00	←
34	00	00	00	00	00	←
35	00	00	00	00	00	←
36	20	20	20	30	30	←
37	40	40	40	30	30	←
38	30	30	30	30	30	←
39	50	50	50	50	50	←
3A	2A	2A	2A	2B	2B	←
3B	4A	4A	4A	4B	4B	←
3C	20	20	20	20	20	←
3D	25	25	25	26	26	←
3E	0A	0A	0A	0A	0A	←
3F	07	07	07	07	07	←
40	20	20	20	64	64	←
41	00	00	00	00	00	←
42	40	40	40	40	40	←
43	1E	1E	1E	1E	1E	←
44	00	00	00	00	00	←
45	F8	F8	F8	F8	F8	←
46	22	22	22	22	22	←
47	10	10	10	10	10	←
48	08	08	08	08	08	←
49	04	04	04	04	04	←
4A	6C	6C	6C	6C	6C	←
4B	00	00	00	01	00	←
4C	95	95	95	70	95	←
4D	41	41	41	41	41	←
4E	02	02	02	02	02	←
4F	1F	1F	1F	1F	1F	←
50	F8	F8	F8	F8	F8	←
51	F8	F8	F8	F8	F8	←
52	9C	9C	9C	9C	9C	←
53	8E	8E	8E	8E	8E	←

Table 6-1-3 (2).

Address	Adjustment Data					
	Initial Value					Memo Column
	CCD-TR910E	CCD-TR810E	CCD-TR760E, CC867	CCD-TR710E	CCD-TR610E	
54	74	74	74	74	74	←
55	5F	5F	5F	5F	5F	←
56	4A	4A	4A	4A	4A	←
57	3F	3F	3F	3F	3F	←
58	2F	2F	2F	2F	2F	←
59	10	10	10	10	10	←
5A	00	00	00	00	00	←

Table 6-1-3 (3).

1-1-7. Data Processing

The calculation of the DDS display and the adjusting remote commander display data (hexadecimal notation) are required for obtaining the adjustment data of some adjustment items. In this case, after converting the hexadecimal notation to decimal notation, calculate and convert the result to hexadecimal notation, and use it as the adjustment data. Table 6-1-4. indicates the hexadecimal notation-the decimal notation calculation table.

Hexadecimal notation-Decimal notation

The lower digits of the hexadecimal notation / The upper digits of the hexadecimal notation	0	1	2	3	4	5	6	7	8	9	A (A)	B (b)	C (c)	② D (d)	E (E)	F (F)
0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
3	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
4	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
5	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
6	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
7	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
8	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
9	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
A (A)	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
① **B (b)**	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
C (c)	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
D (d)	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
E (E)	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
F (F)	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255

Note: ( ) indicate the adjusting remote control unit display.

(Example) In the case that the DDS display and the adjusting remote control unit display are BD (bd).
As the upper digit of the hexadecimal notation is B (b), and the lower digit is D (d), the intersection "189" of the ① and ② in the above table is the decimal notation to be calculated.

Table 6-1-4.

1-2. CAMERA SYSTEM ADJUSTMENTS

1. Initialization of E, F Page Data

Note: If the E, and F page data has been initialized, the "Modification of F Page Data", and "Modification of E Page Data", "Camera System Adjustments", "Servo System Adjustments", "Video System Adjustments", and "Audio System Adjustments" need to be performed again.

Initializing method:

Adjusting page	E
Adjusting address	00 to 5A
Adjusting page	F
Adjusting address	10 to FF

1) Set data: 01 to page: 0, address: 01.
2) Set data: 2D to page: 2, address: 00.
3) Set data: 2D to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
4) Check that the data of page: 2, address: 02 is 01.
5) Set data: 00 to page: 0, address: 01.
6) After performing "Modification of E, F Page Data", perform "Camera System Adjustments", "Servo System Adjustments", "Video System Adjustments", and "Audio System Adjustments".

2. Modification of F Page Data

If the E and F page data has been initialized, change the data as shown in the table on the right by manual input.

Note 1: Before changing the data, set data: 80 to page: 0, address: 01.

Note 2: To write in the non-volatile memory (EEPROM) after changing the data, press the PAUSE button of the adjusting remote commander each time to set the new data.

Note 3: After changing the data, set data: 00 to page: 0, address: 01. Also perform "Camera System Adjustments", "Servo System Adjustments", "Video System Adjustments", and "Audio System Adjustments".

Note 4: ( ): AEP, UK model
(TYPE A/D/E)
[ ]: E, Australian, Hong Kong, Chinese, Tourist model
(TYPE B/C/F)

Address	CCD-TR910E	CCD-TR810E	CCD-TR760E, CC867	CCD-TR710E	CCD-TR610E
00	A6	A6	AA	A8	A8
02	04	02	02	04	(02)[04]
05	BA	BA	BA	BA	BA
06	B8	B8	B8	B8	B8
07	5E	5E	5E	5E	5E
08	47	47	3E	47	47
09	58	58	53	58	58
0A	6B	6B	69	6B	6B
0B	8E	8E	93	8E	8E
1C	77	57	53	77	57
1D	00	00	00	00	00
21	40	40	40	40	40
27	41	40	40	41	(40)[41]
28	46	46	46	44	44
5A	C8	C8	C8	C8	C8
5B	CA	CA	CA	CA	CA
61	3A	3A	3A	3A	3A
69	40	40	40	40	40
74	6B	6B	6B	80	80
75	78	78	78	80	80
7E	98	98	98	80	80
7F	80	80	80	80	80
80	D4	D4	D4	D4	D4
83			01		
87	83	83	83		
91	60	60	60		
93	29	29	29		
95	70	70	70		
97	25	25	25		
99	80	80	80		
9B	10	10	10		
9D	FF	FF	FF		
9F	10	10	10		
A1	70	70	70	B0	B0
A3	00	00	00		
A5	E0	E0	E0	E0	E0
A7	00	00	00	00	00
A9	91	91	91	91	91
AA	70	70	70	70	70
AB	92	92	92	92	92
AC	70	70	70	70	70
AD	A2	A2	A2	A2	A2
AE	70	70	70	70	70
AF	A3	A3	A3	A3	A3

Table 6-1-5 (1).

Address	CCD-TR910E	CCD-TR810E	CCD-TR760E/ CC867	CCD-TR710E	CCD-TR610E
B1	D5	D5	D5	D5	D5
B3	D6	D6	D6	D6	D6
B4	40	40	40	40	40
DF	00	00	00	00	00
E0	F5	F5	F5	F5	F5
E1	1A	1A	1A	1A	1A
E2	33	33	33	33	33
E9	4D	4D	4D	4D	4D

Table 6-1-5 (2).

3. Modification of E Page Data

If the E and F page data has been initialized, change the data as shown in the following table by manual input.

Note 1: Before changing the data, set data: 01 to page: 0, address: 01.

Note 2: To write in the non-volatile memory (EEPROM) after changing the data, press the PAUSE button of the adjusting remote commander each time to set the new data.

Note 3: After changing the data, set data: 00 to page: 0, address: 01. Also perform "Camera System Adjustments", "Servo System Adjustments", "Video System Adjustments", and "Audio System Adjustments".

Address	CCD-TR910E	CCD-TR810E	CCD-TR760E, CC867	CCD-TR710E	CCD-TR610E
15	20	20	20	20	20
16	2A	2A	2A	2A	2A
20	37	37	2A	37	37
21	7C	7C	7E	7C	7C
22	9F	9F	A8	9F	9F
26	30	30		30	30
27	50	50		50	50
28	E0	E0		E0	E0
36	20	20	20		
37	40	40	40		
38	30	30	30		
39	50	50	50		
3A				2B	2B
3B	4A	4A	4A	4B	4B
3D	25	25	25	26	26
40	20	20	20	64	64
41	00	02	00	00	00
50	F8	F8	F8	F8	F8
51	F8	F8	F8	F8	F8

Table 6-1-6.

4. HALL Adjustment

For detecting the position of the lens iris, adjust the hall AMP gain and hall offset.

Subject	Not required
Measurement Point	DDS display of EVF or monitor TV
Measuring Instrument	
Adjustment Page	F
Adjustment Address	3B, 3C
Specified Value	13 to 17 during IRIS OPEN (Note 1)
	7F to 83 during IRIS CLOSE (Note 2)

Note 1: Set data: 01 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.

Note 2: Set data: 03 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 03 to page: 0, address: 03.
3) Set data: 21 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
4) Set data: 03 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
5) Set data: 80 to page: F, address: 3C, and press the PAUSE button of the adjusting remote commander.
6) Set data: 40 to page: F, address: 3B, and press the PAUSE button of the adjusting remote commander.
7) Read the DDS display data (the bottom two digits of the display data at the bottom right of the EVF or the monitor TV display), and this data is named W_2.
8) Set data: 30 to page: F, address: 3B, and press the PAUSE button of the adjusting remote commander.
9) Read the DDS display data, and this data is named W_1.
10) Set data: 01 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
11) Read the DDS display data, and this data is named K_1.
12) Set data: 40 to page: F, address: 3B, and press the PAUSE button.
13) Read the DDS display data, and this data is named K_2.
14) Convert W_1, W_2, K_1, K_2 to decimal notation, and obtain W_1', W_2', K_1', K_2'. (Refer to Table 6-1-4. "Hexadecimal notation-decimal notation conversion table".)
15) Calculate X_1' using the following equations (decimal notation calculation).

$$A' = W_2' + K_1' - W_1' - K_2' \text{ .... Equation 1}$$

$$B' = W_1' - K_1' \text{ .... Equation 2}$$

$$X_1' = \frac{1728 + (48 \times A') - (16 \times B')}{A'} \text{ .... Equation 3}$$

16) Convert X_1' to hexadecimal notation, and obtain X_1. (Round off to one decimal place)
17) Set data: X_1 to page: F, address: 3B, and press the PAUSE button of the adjusting remote commander.
18) Change the data of page: F, address: 3C, and adjust the DDS display data to "15".
19) Press the PAUSE button of the adjusting remote commander.
20) Set data: 03 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
21) Read the DDS display data, and this data is named W_0. If W0 lies within the "7F" to "83" range, perform "Processing after completing adjustments". If it lies outside the range, perform the following adjustments.
22) Convert W_0 to decimal notation, and obtain W_0'.
23) Calculate X_2' using the following equations (decimal notation calculation).

$$C' = W_0' - B' - 21 \text{ .... Equation 4}$$

(X_1' and B' are values obtained from equations 2 and3)

$$X_2' = \frac{(108 - B') \times (X_1' - 48) + 48 \times C'}{C'} \text{ .... Equation 5}$$

24) Convert X_2' to hexadecimal notation and obtain X_2. (Round off to one decimal place)
25) Set data X_2 to page: F, address: 3B, and press the PAUSE button of the adjusting remote commander.
26) Change the data of page: F, address: 3C, and adjust the DDS display data to "81".
27) Press the PAUSE button of the adjusting remote commander.
28) Set data: 01 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
29) Check that the DDS display data lies within the "13" to "17" range.

Processing after Completing Adjustments

1) Set data: 00 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
2) Set data: 00 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
3) Set data: 00 to page: 0, address: 03.
4) Set data: 00 to page: 0, address: 01.

5. Flange Back Adjustment

The inner focus lens flange back adjustment is carried out automatically. In whichever case, the focus will be deviated during auto focusing/manual focusing.

5-1. Flange Back Adjustment (1)

Subject	Flange back adjustment chart (2m from the front of the lens) (Luminance: 300 ± 50 lux)
Measurement Point	Check operations on TV monitor
Measuring Instrument	
Adjustment Page	F
Adjustment Address	2E to 33, 49 to 4D

Adjusting method:

1) Check that at both the zoom lens TELE terminal and WIDE terminal, the center of the chart for the flange back adjustment and center of the exposure screen coincide.
2) Set data: 01 to page: 0, address: 01.
3) Check that the data of page: F, address: 2E to 33, 49 to 4D is the initial value (see table below).

Address	Data	Address	Data
2E	A6	33	11
2F	1A	49	25
30	15	4A	00
31	24	4B	19
32	8C	4C	00

4) Check that the data of page: 2, address: 02 is 00.
5) Set data: 13 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
6) Set data: 27 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
   (The adjustment data will be automatically input to page: F, address: 2E to 33, 49 to 4D.)
7) Check that the data of page: 2, address: 02 is "01".

Processing after Completing Adjustments

1) Turn OFF the main power supply (8.4V)
2) Perform "Flange Back Adjustment (2)".

5-2. Flange Back Adjustment (2)

Perform this adjustment after performing "Flange Back Adjustment (1)".

Subject	Subject more than 500m away (Subjects with clear contrast such as buildings, etc.)
Adjustment Page	F
Adjustment Address	2E to 33, 49 to 4D

Adjusting Method:

1) Set the IRIS to open. (Use a ND filter)
2) Set the zoom lens to the TELE end and expose a subject that is more than 500 m away (subjects with clear contrast such as buildings, etc.). (Nearby subjects less than 500 m away should not be in the screen.)
3) Set data: 01 to page: 0, address: 01.
4) Check that the data of page: 2, address: 02 is "00".
5) Set data: 13 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
6) Set data: 27 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
   (Adjustment data will automatically be input to page: F, addresses: 2E to 33, 49 to 4D.)
7) Check that the data of page: 2, address: 02 is "01".

Processing after Completing Adjustments

1) Set data: 00 to page: 0, address: 01.
2) Turn OFF the main power supply (8.4V).
3) Perform "Flange Back Check".

6. Flange Back Check

Subject	Siemens star (2m from the front of the lens Luminance: approx. 200 lux)
Measurement Point	Check the operation on the TV monitor
Measuring Instrument	
Specified Value	Focused at the TELE end and WIDE end.

Checking method:

1) Place the Siemens star 2m from the front of the lens.
2) To open the IRIS, decrease the luminous intensity to the Siemens star up to a point before noise appears on the image.
3) Set data: 02 to page: 2, address: 40.
4) Set data: 01 to page: 2, address: 41.
5) Shoot the siemens star with the zoom TELE end.
6) Turn on the auto focus.
7) Check that the lens is focused (Note 1), and turn off the auto focus
8) Set data: 10 to page: 2, address: 21.
9) Shoot the siemens star with the zoom WIDE end.
10) Check that the lens is focused.

Note 1: When the auto focus is ON, the lens can be checked if it is focused or not by observing the data on page 1 of the adjusting remote commander.
1) Set data: 0F to page: 0, address: 03.
2) Page 1 shows the state of the focus.
1 : 00 : XX
→ (Odd: Focused
Even: Unfocused)

Processing after Completing Adjustments

1) Set data: 00 to page: 2, address: 21.
2) Set data: 00 to page: 0, address: 03.
3) Set data: 00 to page: 2, address: 40.
4) Set data: 00 to page: 2, address: 41.

7. Picture Frame Setting

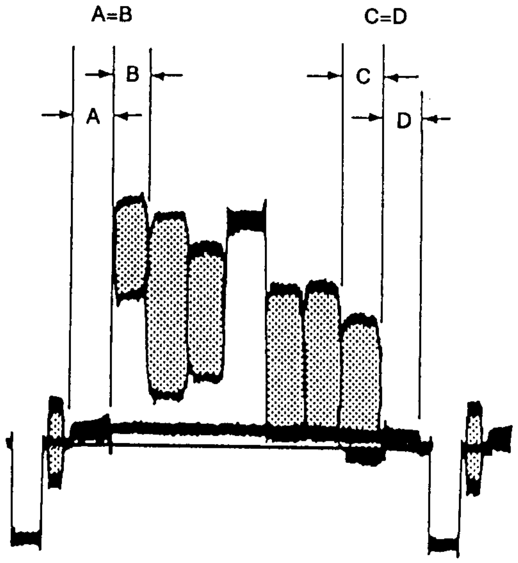
Subject	Color bar chart standard picture frame (2m from the front of the lens)
Measurement Point	Video output terminal
Measuring Instrument	Oscilloscope and TV monitor.
Specified Value	A = B, C = D, t = 0 ± 0.1 msec

Setting method:

1) Adjust the zoom and the camera direction, and set to the specified position.
2) Mark the position of the picture frame on the monitor display, and adjust the picture frame to this position in following adjustments using "color bar chart standard picture frame".

Check on the oscilloscope

1. horizontal period



2. Vertical period

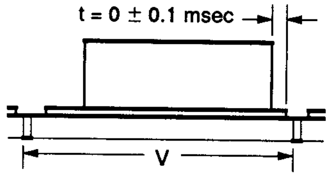


Fig. 6-1-7.

Check on the TV monitor

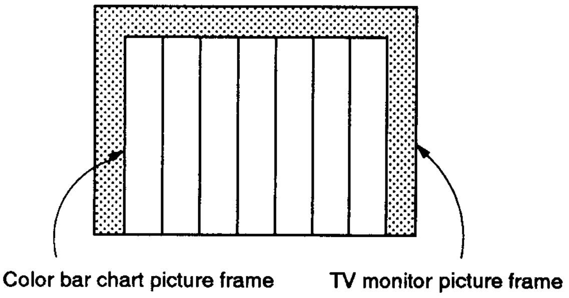


Fig. 6-1-8.

8. Color Reproduction Adjustment

Adjust the color separation matrix coefficient so that the proper color reproduction is produced.

Subject	Color bar chart standard picture frame
Measurement Point	Video output terminal
Measuring Instrument	Vectorscope
Adjustment Page	F
Adjustment Address	3F, 41, DF, E0
Specified Value	All color luminance points should settle within each color reproduction frame.

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 3D to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
3) Set data: 3F to page: F, address: 22, and press the PAUSE button of the adjusting remote commander.
4) Adjust the GAIN and PHASE of the vectorscope, and adjust the burst luminance point to the burst position of the color reproduction frame.
5) Change the data of addresses 3F, 41, DF and E0 of page: F, and settle each color luminance point in each color reproduction frame.

   Note 1: Be sure to press the PAUSE button of the adjusting remote commander before changing the addresses.
   If not, the new data will not be written to the memory.
6) Press the PAUSE button of the adjusting remote commander.

Processing after Completing Adjustments

1) Set data: 00 to page: 2, address: 01 and press the PAUSE button of the adjusting remote commander.
2) Set data: 00 to page: 0, address: 01.

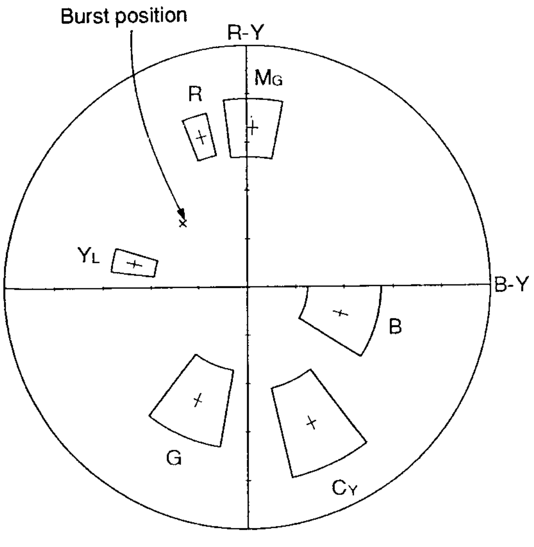


Fig. 6-1-9.

9. IRIS IN/OUT Adjustment

For the unit to judge if the white balance is indoors or outdoors in auto white balance operations, measure the light level and write it in the EEPROM.

If the level is not correct, the white balance will not be accurate.

Subject	Clear chart (Color bar standard picture frame)
Measurement Point	DDS display of EVF or TV monitor
Measuring Instrument	
Adjustment Page	F
Adjustment Address	47, 48

Switch setting:

1) STEADY SHOT switch (S103 on CF block) .... OFF

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 06 to page: 0, address: 03.
3) Set data: 21 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
4) Set data: 02 to page: 2, address: 40.
5) Set data: 0B to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
6) Read the DDS display data (Note 1), and take the upper two digits as D_1 and the lower two as D_2.
7) Convert D_1 to a decimal number and obtain D_1'. (Refer to Table 6-1-4. "Hexadecimal Notation-Decimal Notation Conversion Table".)
8) Calculate D_3' using the following equations. (Equations 1 and 2 are for decimal notation calculation)

   When $D_2 \geq D0$

   $D_3' = D_1' - 21$ .... Equation 1

   When $D_2 < D0$

   $D_3' = D_1' - 22$ .... Equation 2
9) Convert D_3' to a hexadecimal number and obtain D_3.
10) Set D_3 to page: F, address: 47, and press the PAUSE button of the adjusting remote commander.
11) Set data: 09 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
12) Read the DDS display data (Note 1), and take the upper two digits as D_4 and the lower two as D_5.
13) Convert D_4 to a decimal number and obtain D_4'. (Refer to Table 6-1-4. "Hexadecimal Notation-Decimal Notation Conversion Table".)
14) Calculate D_6' using the following equations. (Equations 3 and 4 are for decimal notation calculation)

    When $D_5 \geq F0$

    $D_6' = D_4' - 13$ .... Equation 3

    When $D_5 < F0$

    $D_6' = D_4' - 14$ .... Equation 4

15) Convert D6' to a hexadecimal number and obtain D6.
16) Set D6 to page: F, address: 48, and press the PAUSE button of the adjusting remote commander.

Note 1: The right four digits of the display data at the right bottom side of the EVF and monitor TV is the LIGHT LEVEL data. If the lower digits change severely and cannot be read, record it on a tape once, play it back by frame feeding, and obtain the average value.

Processing after Completing Adjustments
1) Set data: 00 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
2) Set data: 00 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
3) Set data: 00 to page: 2, address: 40.
4) Set data: 00 to page: 0, address: 03.
5) Set data: 00 to page: 0, address: 01.

10. MAX GAIN Adjustment

Setting the minimum illumination.
If it is not consistent, the image level required for taking subjects in low illuminance will not be produced (dark).

Subject	Clear chart (Color bar standard picture frame)
Measurement Point	DDS display of EVF or TV monitor
Measuring Instrument	
Adjustment Page	F
Adjustment Address	3D
Specified Value	B6 to BE

Switch setting:
1) STEADY SHOT switch (S103 on CF block) .... OFF

Adjusting method:
1) Set data: 01 to page: 0, address: 01.
2) Set data: 21 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
3) Set data: 01 to page: 0, address: 03.
4) Set data: 02 to page: 2, address: 40.
5) Set data: 40 to page: 2, address: 56.
6) Set data: 19 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
7) Change the data of page: F, address: 3D and adjust so that the DDS display data (Note 1) lies within the specified value.
8) Press the PAUSE button of the adjusting remote commander.

Note 1: The right two digits of the display data at the right bottom side of the EVF and monitor TV is the object data. If the data change severely and cannot be read, record it on a tape once, play it back by frame feeding, and obtain the avarage value.

Processing after Completing Adjustments
1) Set data: 00 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
2) Set data: 00 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
3) Set data: 00 to page: 2, address: 40.
4) Set data: 00 to page: 2, address: 56.
5) Set data: 00 to page: 0, address: 03.
6) Set data: 00 to page: 0, address: 01.

11. Auto White Balance Standard Data Input

Subject	Clear chart (Color bar standard picture frame)
Adjustment Page	F
Adjustment Address	2A to 2D

Note 1: Perform "Color Reproduction Adjustment" before this adjustment.

Note 2: Check that the data of page: 2, address: 02 is 00. If not, turn the power of the unit OFF/ON.

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Wait for 2 seconds.
3) Set data: 11 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
4) Set data: 0D to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander. (When the standard data is taken in, the data will be automatically input to addresses 2A to 2D of page F.)
5) Check that the data of page: 2, address: 02 is 01.
6) Perform "Auto White Balance Adjustment".

Processing after Completing Adjustments

1) Set data: 00 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
2) Set data: 00 to page: 0, address: 01.

12. Auto White Balance Adjustment

Adjust to the proper auto white balance output data.
If it is not correct, auto white balance and color reproducibility will be poor.

Subject	Clear chart (Color bar standard picture frame)
Filter	Filter C14 for color temperature correction
Measurement Point	Check with the DDS display on the EVF or TV monitor
Measuring Instrument	
Adjustment Page	F
Adjustment Address	45, 46
Specified Value	R ratio: 2B40 to 2BC0 B ratio: 5E40 to 5EC0

Adjusting method:

1) Place the C14 filter for color temperature correction on the lens.
2) Set data: 01 to page: 0, address: 01.
3) Set data: 21 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
4) Set data: 3F to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
5) Set data: 04 to page: 0, address: 03.
6) Change the data of page: F, address: 45, and adjust the average value of the DDS display data (the display data at the bottom right of the EVF or the TV monitor) to the R ratio specified value.
7) Press the PAUSE button of the adjusting remote commander.
8) Set data: 05 to page: 0, address: 03.
9) Change the data of page: F, address: 46, and adjust the average value of the DDS display data to the B ratio specified value.
10) Press the PAUSE button of the adjusting remote commander.

Processing after Completing Adjustments

1) Set data: 00 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
2) Set data: 00 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
3) Set data: 00 to page: 0, address: 03.
4) Set data: 00 to page: 0, address: 01.

13. White Balance Check

Subject	Clear chart (Color bar standard picture frame)
Filter	Filter C14 for color temperature correction ND filter 1.0 and 0.3
Measurement Point	Video output terminal
Measuring Instrument	Vectorscope
Specified Value	Fig. 6-1-10. A to C

Checking method:

1) Check that the lens is not covered with either filter.
2) Set data: 0F to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
3) Check that the center of the white luminance point is within the circle shown in Fig. 6-1-10.A.
4) Set data: 00 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
5) Set data: 23 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
6) Place the C14 filter on the lens.
7) Check that the center of the white luminance point settles in the circle shown in Fig. 6-1-10. B.
8) Remove the C14 filter, and place the ND filter 1.3 (1.0+0.3) on the lens.
9) Check that the center of the white luminance point settles in the circle shown in Fig. 6-1-10. C.

Processing after Completing Adjustments

1) Set data: 00 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.

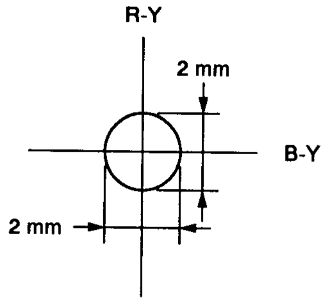


Fig. 6-1-10. A

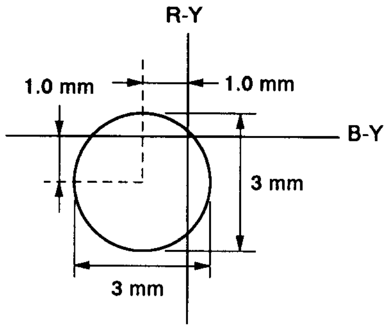


Fig. 6-1-10. B

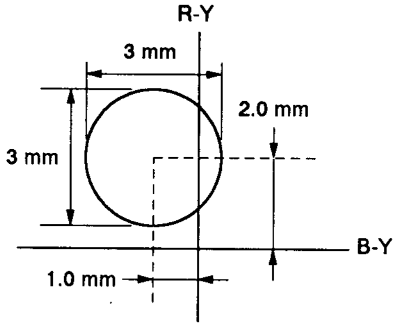


Fig. 6-1-10. C

14. Velocity Sensor Sensitivity Adjustment (STEADY SHOT model)

- This adjustment is performed only when replacing the velocity sensor.
  Although this adjustment need not be performed when the circuit is damaged, etc., check the operations.
- Note down the sensitivity displayed on the velocity sensor of the repair parts. At this time, note down also to which board it was attached to.
  Be sure to check because if attached incorrectly, the screen will vibrate up and down or left and right during hand-shake correction operations.

Precautions on Parts Replacement

There are two types of repair parts-ENC05EA and ENCO5EB. Replace the broken sensor with a same type of sensor. If ENCO5EA and ENCO5EB are attached correctly, the screen will vibrate up and down or left and right during hand-shake correction operations. After replacing, re-adjust according to the adjusting method after replacement.

Precautions on Velocity Sensor

The sensor incorporates a precision oscillator. Handle it with care as if it is dropped, the the balance of the oscillator will be disrupted and operations will not be performed properly.

Adjusting page	F
Adjusting address	52, 53

Note: The sensor sensitivity of SE451 and SE452 of the SE-51 board is written only on the repair parts.

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Read the sensor sensitivity written on SE452 of the SE-51 board, and this data is named S452.
3) Read the sensor sensitivity written on SE451 of the SE-51 board, and this data is named S451.
4) Calculate D52′ and D53′ using the following equation (decimal calculation).

$$D_{52}' = \frac{135}{S_{452}}$$

$$D_{53}' = \frac{130}{S_{451}}$$

5) Convert D52′ and D53′ into hexadecimal digits, to obtain D52 and D53. (Round off decimal points)
6) Set data: D52 to page: F, address: 52, and press the PAUSE button of the adjusting remote commander.
7) Set data: D53 to page: F, address: 53, and press the PAUSE button of the adjusting remote commander.

Processing after Completing Adjustments

1) Set data: 00 to page: 0, address: 01.
2) Check that the hand-shake correction operations have been performed normally.

1-3. COLOR ELECTRONIC VIEWFINDER SYSTEM ADJUSTMENTS (COLOR EVF model) (CCD-TR710/TR910E)

Note 1: The backlight (fluorescent tube) is driven by a high voltage AC power supply.
Therefore, be careful not to touch the backlight holder as you will receive an electric shock.

Note 2: When replacing the LCD unit, ensure there will be no damages by static electricity.

Note 3: Set the VF PW-SAVE (Menu display) to "OFF" position, unless specified otherwise.

[Adjusting connector]

Some measuring points for adjusting the view-finder are concentrated at CPC of the FP-379 flexible board. Connect the measuring equipments via CPC-5 jig (J-6082-351-A). The following table lists the pin numbers and signal names of CPC.

Pin No.	Signal Name	Pin No.	Signal Name
1	LANC SIG	2	LANC DC
3	CAP FG	4	RF SWP
5	1/2 SWP	6	REC RF
7	REG GND	8	PB PCM RF
9	PB RF	10	CHASSIS GND
11	RF AGC IN	12	AFC FO
13	EZ I/O	14	RF AGC OUT
15	REC AFM	16	BPF MON
17	EVF UNREG (–)	18	VCO
19	EVF UNREG	20	EVF VG

Table 6-1-7.

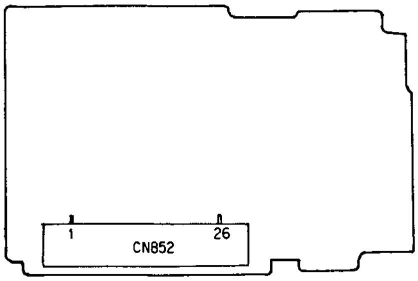
[Power Supply Voltage]

Adjust the power supply voltage for the battery pin so that Pin ⑲ (EVF UNREG) of CPC of the FP-379 flexible board becomes 6.0 ± 0.1 Vdc.

1. Power Supply Voltage Check (VF-95 board)

Mode	Record
Measuring Instrument	Digital voltmeter
13.5V check	
Measurement Point	Pin ⑪ of CN852
Specified Value	13.5 ± 0.3 Vdc
12.0V check	
Measurement Point	Pin ⑩ of CN852
Specified Value	12.0 ± 0.3 Vdc

VF-95 board (Component side)



2. EVR Initial Data Input

Mode	VTR STOP
Signal	Arbitrary
Adjustment Page	D
Adjustment Address	40 to 51

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Select page D, and input the data in the following table.
   Note: To write in the nonvolatile memory (EEPROM), press the PAUSE button of the adjusting remote commander each time the data is set.
3) Set data: 00 to page: 0, address: 01.

Address	Data	Address	Data
40	38	49	A6
41	00	4A	AD
42	20	4B	6F
43	20	4C	93
44	82	4D	93
45	00	4E	B0
46	88	4F	B4
47	73	50	48
48	A3	51	40

3. VCO Adjustment (VF-96 board)

Set the VCO freerun frequency.
If deviated, the EVF screen will be blurred.

Mode	VTR stop (Adjustment mode 1)
Signal	Arbitrary
Measurement Point	Pin ⑱ of CPC of FP-379 flexible board (VCO)
Measuring Instrument	Oscilloscope (DC range)
Adjustment Page	D
Adjustment Address	4F
Specified Value	A = 1.8 ± 0.1V

Adjusting method:

1) Check the GND level of the oscilloscope.
2) Set data: 01 to page: 0, address: 01.
3) Set data: 03 to page: 0, address: FF.
4) Set data: 05 to page: 2, address: 01.
5) Set data: 02 to page: 3, address: 30.
6) Set data: 00 to page: 0, address: FF.
7) Change the data of page: D, address: 4F, and set the PCO output voltage (A) to the specified value.
8) Press the PAUSE button of the adjusting remote commander.
9) Set data: 03 to page: 0, address: FF.
10) Set data: 05 to page: 2, address: 01.
11) Set data: 00 to page: 3, address: 30.
12) Set data: 00 to page: 0, address: FF.
13) Set data: 00 to page: 0, address: 01.

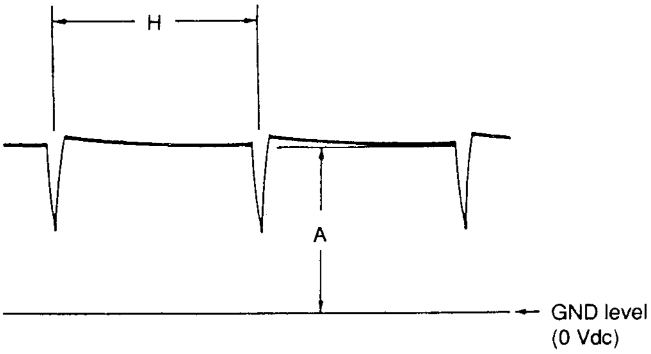


Fig. 6-1-11.

4. Bright Adjustment (VF-96 board)

Set the VIDEO signal level for driving the LCD to the appropriate value. If deviated, the LCD screen may become blackish or asurated (whitish).

Mode	VTR stop (Adjustment mode 2)
Signal	Arbitrary
Measurement Point	Pin ⑳ of CPC of FP-379 flexible board (EVF VG)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	48
Specified Value	A = 7.1 ± 0.15V

Connection:

1) Connect a 3.3 kΩ between Pin ⑳ and Pin ⑦ of CPC (REG GND). (Part code of 3.3 kΩ: 1-249-423-11)

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Input the following data to page: D, address: 40 to 45.
   Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjusting remote commander each time to set the data.

Address	40	41	42	43	44	45
Data	00	00	00	00	00	00

3) Set data: 03 to page: 0, address: FF.
4) Set data: 05 to page: 2, address: 01.
5) Set data: 01 to page: 3, address: 31.
6) Set data: 00 to page: 0, address: FF.
7) Change the data of page: D, address: 48, and set the voltage (A) between the reverse waveform pedestal and on-reverse waveform pedestal to the specified value.
8) Press the PAUSE button of the adjusting remote commander.
9) Set data: 03 to page: 0, address: FF.
10) Set data: 05 to page: 2, address: 01.
11) Set data: 00 to page: 3, address: 31.
12) Set data: 00 to page: 0, address: FF.
13) Input the following table in page: D, address: 40 to 45.
    Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjusting remote commander each time to set the data.

Address	40	41	42	43	44	45
Data	38	00	20	20	82	00

14) Set data: 00 to page: 0, address: 01.

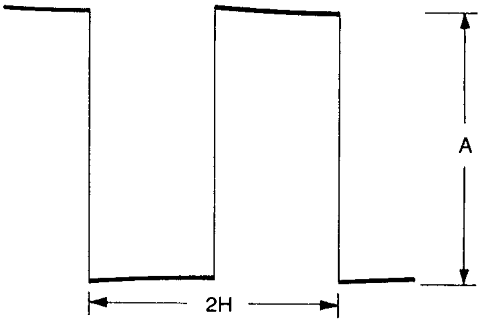


Fig. 6-1-12.

5. Contrast Adjustment (VF-96 board)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen may become inconsistent or white/black.

Mode	VTR stop (Adjustment mode 1)
Signal	Arbitrary
Measurement Point	Pin ⑳ of CPC of FP-379 flexible board (EVF VG)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	4B
Specified Value	A = 1.75 ± 0.1V

Connection:

1) Connect a 3.3 kΩ between Pin ⑳ and Pin ⑦ of CPC (REG GND). (Part code of 3.3 kΩ: 1-249-423-11)

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 03 to page: 0, address: FF.
3) Set data: 05 to page: 2, address: 01.
4) Set data: 02 to page: 3, address: 30.
5) Set data: 01 to page: 3, address: 31.
6) Set data: 00 to page: 0, address: FF.
7) Change the data of page: D, address: 4B, and set the voltage (A) between white 50% and the pedestal to the specified value.
8) Press the PAUSE button of the adjusting remote commander.
9) Set data: 03 to page: 0, address: FF.
10) Set data: 05 to page: 2, address: 01.
11) Set data: 00 to page: 3, address: 30.
12) Set data: 00 to page: 3, address: 31.
13) Set data: 00 to page: 0, address: FF.
14) Set data: 00 to page: 0, address: 01.

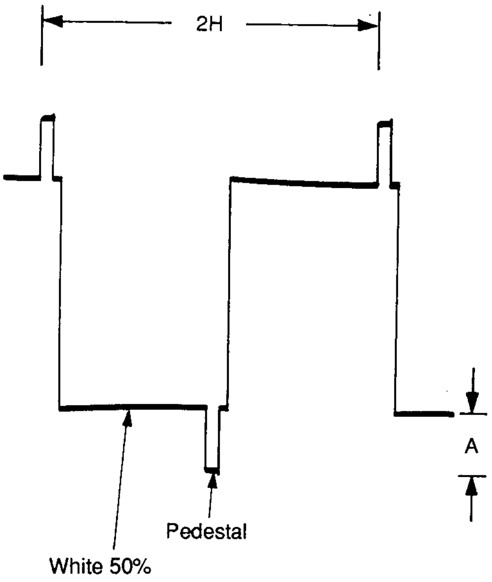


Fig. 6-1-13.

6. Backlight Consumption Current Adjustment (VF-95 board)

Set the back light luminance and color temperature.
If deviated, the image may becomes blackish or asurated (whitish).

Mode	VTR stop (Adjustment mode 1)
Signal	Arbitrary
Measurement Point	+ Probe: Pin ⑲ of CPC of FP-379 flexible board (EVF UNREG) – Probe: Pin ⑰ of CPC of FP-379 flexible board (EVF UNREG (–))
Measuring Instrument	Digital voltmeter
Adjustment Page	D
Adjustment Address	50
Specified Value	A = 20.0 ± 1.0 mVdc

Note: Adjust 30 seconds after running on the power supply.

Adjusting method:

1) Check that the voltage of Pin ⑲ (EVF UNREG) of CPC of the FP-379 flexible board is 6.0 ± 0.1 Vdc.
2) Set data: 01 to page: 0, address: 01.
3) Set data: 03 to page: 0, address: FF.
4) Set data: 05 to page: 2, address: 01.
5) Set data: 02 to page: 3, address: 30.
6) Set data: 00 to page: 0, address: FF.
7) Change the data of page: D, address: 50, and set the potential difference (A) between EVF UNREG and EVF UNREG (–) to the specified value.
8) Press the PAUSE button of the adjusting remote commander.
9) Set data: 03 to page: 0, address: FF.
10) Set data: 05 to page: 2, address: 01.
11) Set data: 00 to page: 3, address: 30.
12) Set data: 00 to page: 0, address: FF.
13) Set data: 00 to page: 0, address: 01.

7. White Balance Adjustment (VF-96 board)

Correct the white balance.
If deviated, the reproduction of the LCD screen may degenerate.

Mode	VTR stop (Adjustment mode 1)
Signal	Arbitrary
Measurement Point	Check on the LCD display
Measuring Instrument	
Adjustment Page	D
Adjustment Address	49, 4A
Specified Value	The LCD display should be B/W.

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set the data of page: D, address: 49, 4A to the initial value.
   Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjusting remote commander each time to set the data.

Address	Data
49	A6
4A	AD

3) Set data: 03 to page: 0, address: FF.
4) Set data: 05 to page: 2, address: 01.
5) Set data: 02 to page: 3, address: 30.
6) Set data: 00 to page: 0, address: FF.
7) Check that the LCD display is B/W. If colored, change the data of page: D, address: 4A so that the LCD display becomes B/W.
   Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjusting remote commander each time to set the data.
8) Set data: 03 to page: 0, address: FF.
9) Set data: 05 to page: 2, address: 01.
10) Set data: 00 to page: 3, address: 30.
11) Set data: 00 to page: 0, address: FF.
12) Set data: 00 to page: 0, address: 01.

8. AUTO ON Level Adjustment (VF-95 board)

Adjust the power save sensor, and maintain at the level at which the back light is AUTO ON.

Mode	VTR stop (Adjustment mode 2)
Signal	Arbitrary
Measurement Point	Check that the back light lights up
Measuring Instrument	
Adjustment Page	D
Adjustment Address	51
Specified Value	AUTO OFF distance Above 12 cm, less than 14 cm (Note 2) AUTO ON distance Above 9 cm, less than 11 cm (Note 2)

Note 1: Do not perform this adjustment in strong light or under lights.

Note 2: The specified value is the adjustment value during adjustments. The specified value during operation checks is as follows.
AUTO OFF distance: Above 9 cm, less than 15 cm
AUTO ON distance: Above 7 cm, less than 13 cm

Switch setting:

1) Set the "VF PW-SAVE" on the menu screen to "ON".

Adjustment preparation:

1) Prepare a 30 cm x 30 cm white paper, and place it 10 cm away from the EVF lens.

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Input the following data to page: D, addresses: 40 to 45.
   Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjusting remote commander each time to set the data.

Address	40	41	42	43	44	45
Data	00	00	00	00	00	00

3) Increase the data of page: D, address 51.
4) Increase the data of page: D, address: 51 slowly, and turn off the back light.
5) Press the PAUSE button of the adjusting remote commander.
6) Move the white paper away from the EVR lens and turn off the back light. Then move it to the lens slowly, and check that the back light lights up when the distance (AUTO ON distance) is the specified value.
7) Move the white paper near the EVR lens so that the back light lights up, and then move it away, and check that the back light goes off when the distance (AUTO OFF distance) is the specified value.
8) Input the following data to page: D, address: 40 to 45.
   Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjusting remote commander each time to set the data.

Address	40	41	42	43	44	45
Data	38	00	20	20	82	00

9) Set data: 00 to page: 0, address: 01.

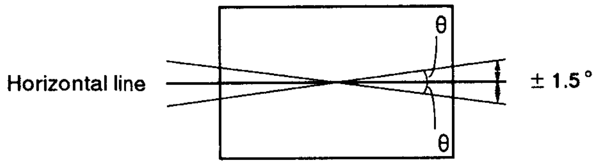
1-4. ELECTRONIC VIEWFINDER SYSTEM ADJUSTMENTS (B/W EVF MODEL) (CCD-TR610E/TR760E/TR810E,CC867)

1-4-1. Horizontal Slant Check

Mode	Playback
Signal	Alignment tape: For checking operations (WR5-5CSP or WR5-8CSE) Monoscope section
Specified Value	± 1.5°

Adjusting method:

1) Adjust RV904 (BRIGHT) so that the CRT can be seen easily and clearly.
2) Check that the difference between the horizontal line and the tilt of the black mask satisfies the specified value.



Specified value: The image should be within ± 1.5° of the horizontal line.

Fig. 6-1-14.

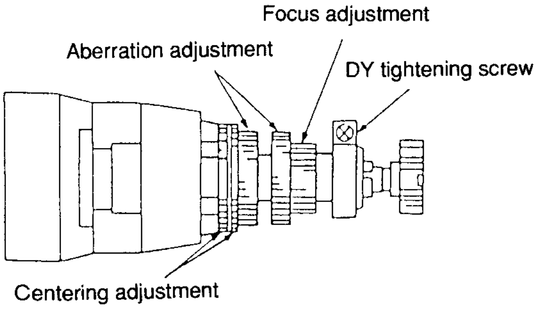


Fig. 6-1-15.

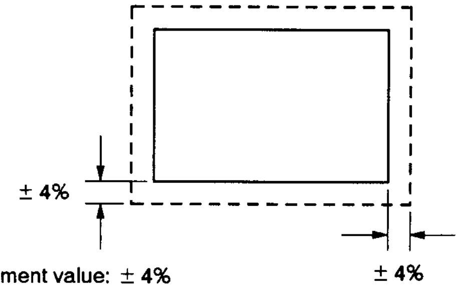
1-4-2. Centering Adjustment

Mode	Playback
Signal	Alignment tape: For checking operations (WR5-5CSP or WR5-8CSE) Monoscope section
Specified Value	± 4%

Adjusting method:

1) Use the centering adjustment ring and adjust so that the left, right, top, and bottom sides of the display are uniform. (Refer to Fig. 6-1-15.)

   Note: As the centering position changes due to earth magnetism, rotate it 360° in the horizontal direction, and adjust with the center section of the modifying position.



Adjustment value: ± 4%

Fig. 6-1-16.

1-4-3. Focus Adjustment

Mode	Playback
Signal	Alignment tape: For checking operations (WR5-5CSP or WR5-8CSE) Monoscope section

Adjusting method:

1) Adjust the focus ring to obtain the optimum focus. (Refer to Fig. 6-1-15.)

1-4-4. Aberration Adjustment

Mode	E-E
Signal	Dot pattern
Specified Value	$b_1 \leqq 2 \cdot a_1$ $b_2 \leqq 0.8 \cdot a_2$

Adjusting method:

1) Adjust the aberration adjustment ring so that the tracing of the dot satisfies the specified value.
2) If the centering becomes displaced here, perform the centering adjustment from the beginning again.

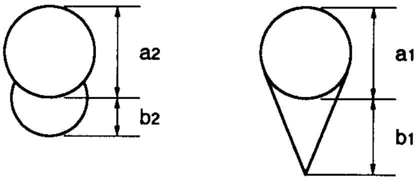


Fig. 6-1-17.

1-4-5. Horizontal Amplitude Adjustment (VF-99 board)

Mode	Playback
Signal	Alignment tape: For checking operations (WR5-5CSP or WR5-8CSE) Monoscope section
Adjusting Element	C909 (SOL901)
Specified Value	14 ± 6%

Adjusting method:

1) Rotate RV903, and adjust the top and bottom sides of the monoscope image to the top and bottom edges of the display.
2) Rotate RV904 so that the brightness is the normal level.
3) Solder or unsolder SOL901 pattern of the H size adjustment capacitor (C909) to "short" or "open", so that the horizontal direction over scan becomes 14 ± 6% (Left and right totals).

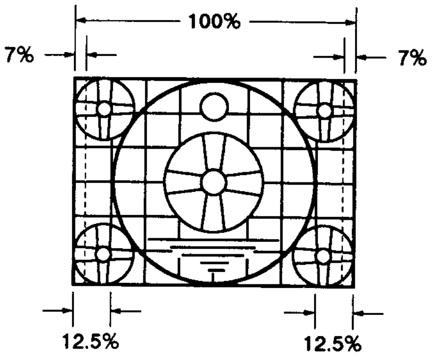
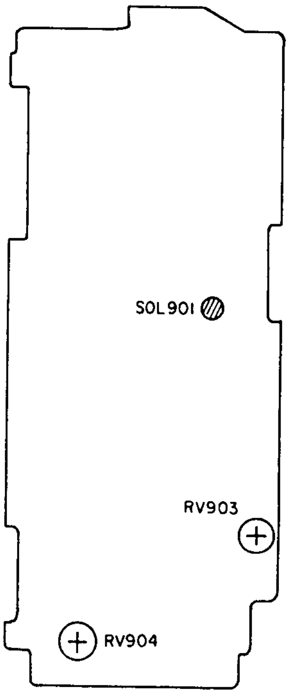


Fig. 6-1-18.

SOL901	Size H
Open	Small
Short	Big

VF-99 BOARD (COMPONENT SIDE)



1-4-6. Vertical Amplitude Adjustment (VF-99 board)

Mode	Playback
Signal	Alignment tape: For checking operations (WR5-5CSP or WR5-8CSE) Monoscope section
Adjusting Element	RV903
Specified Value	10 ± 3%

Adjusting method:

1) Adjust RV903 so that the vertical direction over scan becomes 10 ± 3% (Top and bottom totals).

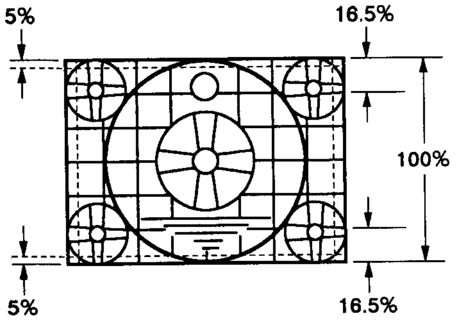


Fig. 6-1-19.

1-4-7. Brightness Adjustments (VF-99 board)

Mode	Playback
Signal	Alignment tape: For checking operations (WR5-5CSP or WR5-8CSE) Monoscope section
Specified Value	RV904

Adjusting method:

1) Rotate RV904, and adjust so that the bright/dark sections of the gray scale are displayed correctly. (The bright section should be unsatisfactory till the cross hatch appears vague in the monoscope circle. The dark section should be unsatisfactory till the darkest section and the second darkest section of the gray scale cannot be differentiated.)

1-4-8. Horizontal Amplitude, Vertical Amplitude, Focus Check

"1-4-5. Horizontal Amplitude Adjustment" and "1-4-6. Vertical Amplitude Adjustment" should both satisfy the specified values. If not, perform the adjustments from the beginning again. In this case, perform [1-4-7. Brightness, Contrast Adjustments] again.

Moreover, check the focus, and if it found to be vague, perform "1-4-3. Focus Adjustment" and "1-4-4. Aberration Adjustment".

6-2. MECHANICAL SECTION ADJUSTMENT

Mechanism Parts Adjustments

For details on the adjustments and checks of mechanical section and replacements of mechanism parts, refer to the separate volume- "8 mm Video Mechanism Adjustment Manual VII B Mechanism".

2-1. OPERATING WITHOUT A CASSETTE

1) Refer to "Section 2 DISASSEMBLY" and supply the power with the cabinet removed. (So that the mechanical deck can be operated.)
2) Connect the adjusting remote commander to the remote terminal.
3) Turn on the HOLD switch of the adjusting remote commander.
4) Close the cassette compartment without loading a cassette and complete loading.
5) Set data: 01 to page: 0, address: 01.
6) Set data: 01 to page: F, address: 29, and press the PAUSE button of the adjusting remote commander.
7) Set data: 04 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.

By carrying out the above procedure, the unit can be operated without loading a cassette.

Be sure to carry out "Processing after Operations" after checking the operations.

Set the data of page: D, address: 10 to the following if the sensor ineffective mode, forced PLAYER (VTR) power supply ON mode or forced camera power supply ON mode are to be used together.

Forced VTR power supply ON mode..........06
Forced camera power supply ON mode......05

[Processing after Operations]

1) Set data: 01 to page: 0, address: 01.
2) Set data: 00 to page: F, address: 29, and press the PAUSE button of the adjusting remote commander.
3) Set data: 00 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
4) Set data: 00 to page: 0, address: 01.
5) Disconnect the power supply of the unit.

2-2. TAPE PATH ADJUSTMENT

1. Preparations for adjustments

1) Clean the tape path face (tape guide, drum, capstan shaft, pinch roller).
2) Connect the adjusting remote commander to the remote terminal.
3) Turn on the HOLD switch of the adjusting remote commander.
4) Select page: 0, address: 01, and set data: 01.
5) Select page: F, address: 29, and set data: 04 and press the PAUSE button of the adjusting remote commander.
   (Be sure to perform "Processing after operations" after completing adjustments.)
6) Connect the oscilloscope.
   Channel 1-Pin ⑨ of CPC of FP-379 flexible board
   External trigger-Pin ④ of CPC of FP-379 flexible board
   (Connect the oscilloscope via the multi CPC-5 jig (J-6082-351-A).)
7) Playback the alignment tape for tracking (WR5-1CP).
8) Check that the RF waveform of the oscilloscope is flat at both the entrance and the exit.
   If not flat, perform necessary adjustment according to the separate "8 mm Video Mechanical Adjustment Manual VII B Mechanism".
9) Perform "Processing after operations", after completing adjustments.

CPC of FP-379 flexible board

Pin No.	Signal Name	Pin No.	Signal Name
1	LANC SIG	2	LANC DC
3	CAP FG	4	RF SWP
5	1/2 SWP	6	REC RF
7	REG GND	8	PB PCM RF
9	PB RF	10	CHASSIS GND
11	RF AGC IN	12	AFC FO
13	EZ I/O	14	RF AGC OUT
15	REC AFM	16	BPF MON
17	EVF UNREG (–)	18	VCO
19	EVF UNREG	20	EVF VG

[Processing after operations]

1) Connect the adjusting remote commander, and turn on the HOLD switch.
2) Select page: 0, address: 01, and set data: 01.
3) Select page: F, address: 29, and set data: 00.
4) Press the PAUSE button of the adjusting remote commander.
5) Select page: 0, address: 01, and set data: 00.
6) Remove the power supply from the unit.

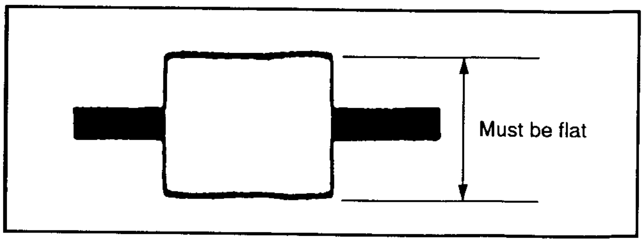


Fig. 6-2-1.

6-3. VIDEO SECTION ADJUSTMENTS

When performing adjustments, refer to the layout diagrams for adjustment related parts beginning from page 6–62.

3-1. PREPARATIONS BEFORE ADJUSTMENT

The following adjusting instruments are used for adjusting the video section.

3-1-1. Equipments to be Used

1) TV monitor
2) Oscilloscope: 2 phenomena, band 30 MHz or wider, with delay mode. (Use a 10:1 probe unless specified otherwise.)
3) Frequency counter
4) Pattern generator with video output terminal
5) Digital voltmeter
6) Audio generator
7) Audio level meter
8) Audio distortion meter
9) Audio attenuater
10) Regulated power supply
11) Alignment tape
    - For tracking adjustment (WR5-1CP)
      Part Code: 8-967-995-07
    - For video frequency characteristics adjustment (WR5-7CE)
      Part Code: 8-967-995-18
    - For checking Standard 8 mm mode operations
      For LP (WR5-4CL)
      Part Code: 8-967-995-56
      For SP (WR5-5CSP)
      Part Code: 8-967-995-47

      Note: The following alignment tapes can also be used.
      1) WR5-3CL (8-967-995-36)
      2) WR5-4CSP (8-967-995-46)
    - For checking Hi8 mode operations
      For SP (WR5-8CSE)
      Part Code: 8-967-995-48
      For LP (WR5-8CLE)
      Part Code: 8-967-995-57
    - For checking AFM stereo operations (WR5-9CS)
      Part Code: 8-967-995-28
      For checking BPF adjustment (WR5-11CS)
      Part Code: 8-967-995-76
12) Remote commander for adjustment (J-6082-053-B)
13) CPC-5 jig
    Part Code: J-6082-351-A
14) Power code
    Part Code: J-6082-223-A
15) AFM DEV jig (J-6082-312-A)
16) Extension cable (60P, 0.5 mm) (J-6080-356-A)

3-1-2. Precautions in Adjustment

1) The adjustments of this unit can be performed in the VTR mode (S video terminal input or video terminal input mode) or in the camera mode.
   When set to the VTR mode, set the power switch to "PLAYER or VTR" or set to the "forced VTR power supply ON mode" (Note 1) using the adjusting remote commander.
   To set to the camera mode, set the power switch to "Camera" or set to the "forced camera+VTR power supply ON mode" (Note 2) using the adjusting remote commander.
   After completing adjustments, be sure to exit the "forced VTR power supply ON mode" (Note 1) and "forced camera+VTR power supply ON mode". (Note 3)
2) The front panel block (MA-268 board) need not be connected. To disconnect, disconnect the following two connectors.
   1. CN303 of MA-268 board (13P, 0.5 mm)
3) The lens block (CD-148 board) and accessory shoe are not required for video section adjustments (excluding the battery end adjustment). During adjustments, disconnect the following three connectors.
   1. CN113 of VC-177 board (23P, 0.5 mm)
   2. CN112 of VC-177 board (16P, 0.5 mm)
   3. CN205 of VC-177 board (10P, 0.5 mm)
4) The viewfinder need not be connected. To disconnect, disconnect the following connector.
   1. CN111 of VC-177 board (20P, 0.5mm)
5) The cabinet (R) (CF block, LC-52 board) need not be connected be set to the "forced VTR power supply ON mode" or "forced camera+VTR power supply ON mode" (excluding battery end adjustment). To disconnect, disconnect the following connector.
   1. CN502 of HI-39 board (24P, 0.5 mm)
   After completing adjustments, be sure to exit the "forced VTR power supply ON mode" and "forced camera+VTR power supply ON mode". (Note 3)
6) When opening the HI-39 board, use the following extension cable.
   1. J-6080-356-A (60P, 0.5 mm)

Note 1: Setting the "forced VTR power supply ON mode"

1) Set data: 01 to page: 0, address: 01.
2) Set data: 02 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
   Hereafter, VTR operations cannot be performed even if the cabinet (R) is removed using the above steps.
   After completing adjustments, be sure to exit the "forced VTR power supply ON mode".

Note 2: Setting the "forced camera+VTR power supply ON mode" (camera mode)

1) Set data: 01 to page: 0, address: 01.
2) Set data: 03 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
   Hereafter, VTR operations cannot be performed even if the cabinet (R) is removed using the above steps.
   After completing adjustments, be sure to exit the "forced VTR power supply ON mode".

Note 3: Exiting the "forced power supply ON mode"

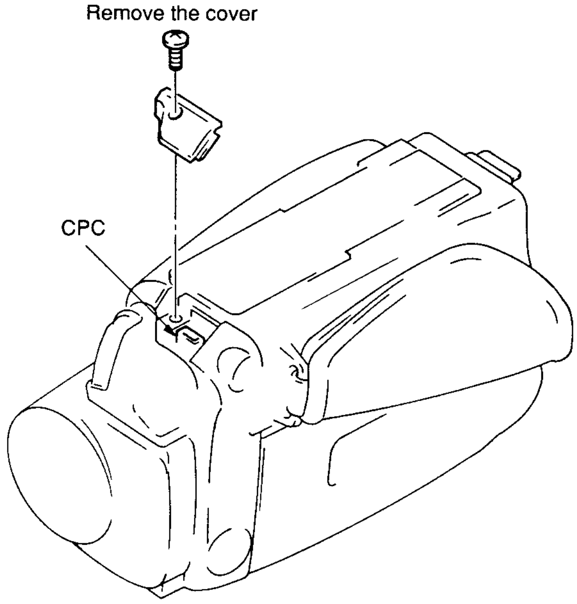
1) Set data: 01 to page: 0, address: 01.
2) Set data: 00 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
3) Set data: 00 to page: 0, address: 01.

3-1-3. Connector for Adjustments

Some of the video section adjusting points are concentrated in the CPC of the FP-379 flexible board. Connect the measuring instruments via the CPC-5 jig (J-6082-351-A).

Pin No.	Signal Name	Pin No.	Signal Name
1	LANC SIG	2	LANC DC
3	CAP FG	4	RF SWP
5	1/2 SWP	6	REC RF
7	REG GND	8	PB PCM RF
9	PB RF	10	CHASSIS GND
11	RF AGC IN	12	AFC FO
13	EZ I/O	14	RF AGC OUT
15	REC AFM	16	BPF MON
17	EVF UNREG (–)	18	VCO
19	EVF UNREG	20	EVF VG

Table 6-3-1.

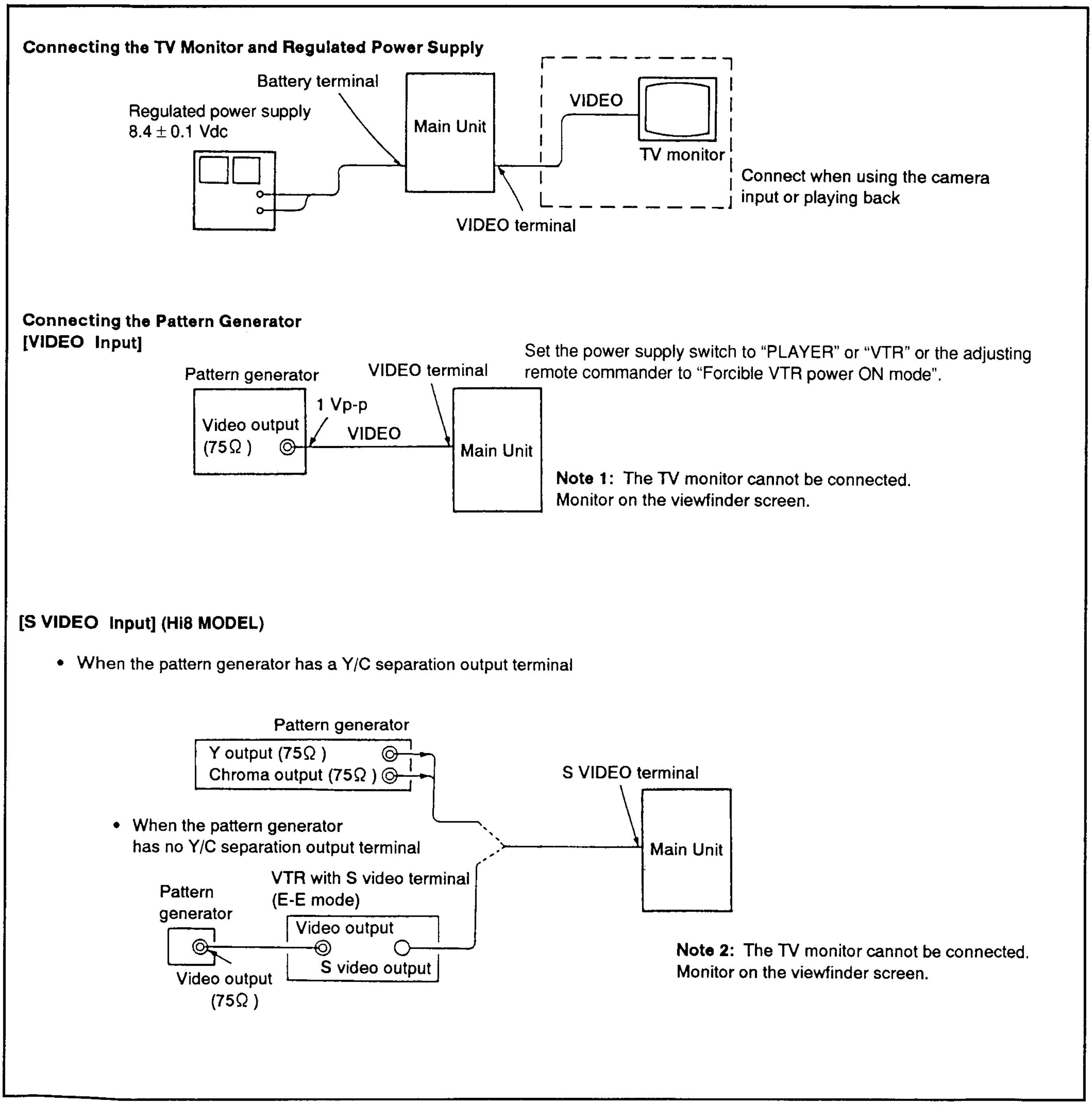


3-1-4. Connecting the Equipments

Connect the measuring instruments as shown in Fig. 6-3-1 according to the input terminal specifications (VIDEO input or S VIDEO input), and perform the adjustments.
The input terminal is specified in the ( ) in the signal column. Either input terminal can be used when there are no specifications.

Note 1: If the VIDEO input is used for adjustments which specify for the S VIDEO input to be used, the product specifications of the unit may not be satisfied in some cases. Be sure to perform according to the specifications. (CCD-TR910E)

Note 2: When adjustments are performed with the S video output terminal VTR as the signal source, the efficiencies of the unit may be affected by the VTR. It is recommended that a pattern generator with a Y/C separation output terminal be used as much as possible.


Connecting the TV Monitor and Regulated Power Supply
Battery terminal
Regulated power supply
8.4 ± 0.1 Vdc
Main Unit
VIDEO
TV monitor
VIDEO terminal
Connecting the Pattern Generator
[VIDEO Input]
Pattern generator
VIDEO terminal
Video output
(75Ω)
1 Vp-p
VIDEO
Main Unit
[S VIDEO Input] (Hi8 MODEL)
Pattern generator
Y output (75Ω)
Chroma output (75Ω)
S VIDEO terminal
Main Unit
Pattern
generator
VTR with S video terminal
(E-E mode)
Video output
S video output
Video output
(75Ω)

Connect when using the camera input or playing back

Set the power supply switch to "PLAYER" or "VTR" or the adjusting remote commander to "Forcible VTR power ON mode".

Note 1: The TV monitor cannot be connected. Monitor on the viewfinder screen.

- When the pattern generator has a Y/C separation output terminal
- When the pattern generator has no Y/C separation output terminal

Note 2: The TV monitor cannot be connected. Monitor on the viewfinder screen.

Fig. 6-3-1.

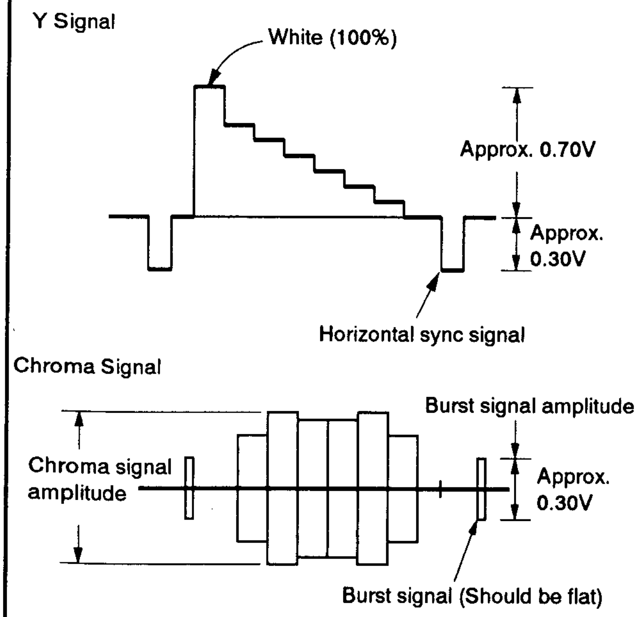
3-1-5. Checking the Input Signals

Because the video signal obtained from the pattern generator is used as the adjustment signal for adjusting the VTR section, the video output signal must satisfy the given specifications.

1. S VIDEO input (Hi8 MODEL)

Connect the oscilloscope to the Y signal terminal of the S VIDEO terminal, and check that the sync signal of the Y signal is approximately 0.30V and that the amplitude of the video section is approximately 0.70V. (When a VTR with the S VIDEO output terminal is used, also check that the chroma signal and burst signal have not remained.) Connect the oscilloscope to the chroma signal terminal of the S VIDEO terminal, and check that the burst signal amplitude of the chroma signal is approximately 0.30V and flat, and that the amplitude ratio of the burst signal to the chroma signal is 0.30 : 0.66. The Y and chroma signals used in the adjustment are shown in Fig. 6-3-2.

Note: Be sure to check in the recording mode.


Y Signal
White (100%)
Approx. 0.70V
Approx. 0.30V
Horizontal sync signal
Chroma Signal
Burst signal amplitude
Chroma signal amplitude
Approx. 0.30V
Burst signal (Should be flat)

Burst amplitude: Chroma amplitude=0.30 : 0.66

Fig. 6-3-2. Color bar signal of pattern generator

2. VIDEO input

Connect the oscilloscope to the VIDEO terminal, and check that the sync signal amplitude of the video signal is approximately 0.30V, the amplitude of the video section is approximately 0.70V, the amplitude of the burst signal is approximately 0.30V and flat, and that the level ratio of the burst signal to the "red" signal is 0.30 : 0.66.

The video signal (color bar) used for adjusting the VTR section is shown in Fig. 6-3-3.

Note: Be sure to check in the record mode.

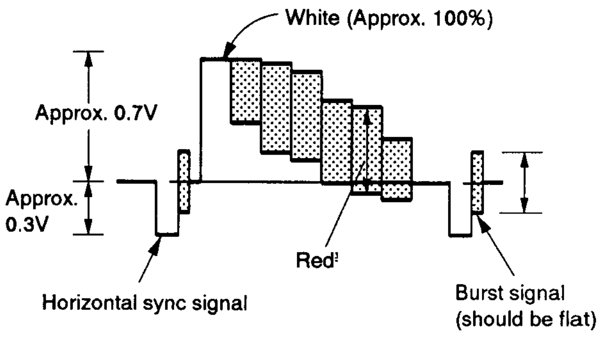

White (Approx. 100%)
Approx. 0.7V
Approx. 0.3V
Red
Horizontal sync signal
Burst signal (should be flat)

Fig. 6-3-3. Color Bar Signal of Pattern Generator

3-1-6. How to Set the REC Mode in the Model without REC switch (AEP, UK model) (TYPE A/D/E)

Note: The chrome signal cannot be input and recorded.

1. REC key forbidden accept mode cancel
   1. Connect the adjustment remote commander to the remote terminal.
   2. Turn on the power.
   3. Turn on the HOLD switch of the adjustment remote commander.
   4. Select the page: 0 address: 01, and set the data to 01.
   5. After memorizing data of address: 12 of page: D, Set data: <FE> or [86] to the address. (Note)
   6. Press PAUSE button on the adjustment remote commander.

   Note: < >: Hi8 model
   [ ]: Standard 8 model

The REC key is accepted through the above procedure.

2. REC mode setting
   1. Turn off the HOLD switch of the adjusting remote commander.
   2. Press REC buttons of the adjusting remote commander.
   3. Perform "3. Procedure after completed the adjustment" after completing adjustment .

3. Procedure after completed the adjustment

Be sure to return the mode to REC key forbideden accept mode after adjustment.

1. Connect the adjustment remoter commander.
2. Turn on the power.
3. Turn on the HOLD switch of the adjustment remote commander.
4. Select the page: 0 address: 01, and set the data to 01.
5. Set data memorized at step 1)-5 to address: 12 of page: D.
6. Press PAUSE button on the adjustment remote controller.
7. Select the page: 0 address: 01, and set the data to 00.

3-1-7. Alignment Tape

The following table lists alignment tapes which are available. Use the tape specified in the signal column for each adjustment. If the type of tape to be used for checking operations is not specified, use whichever type.

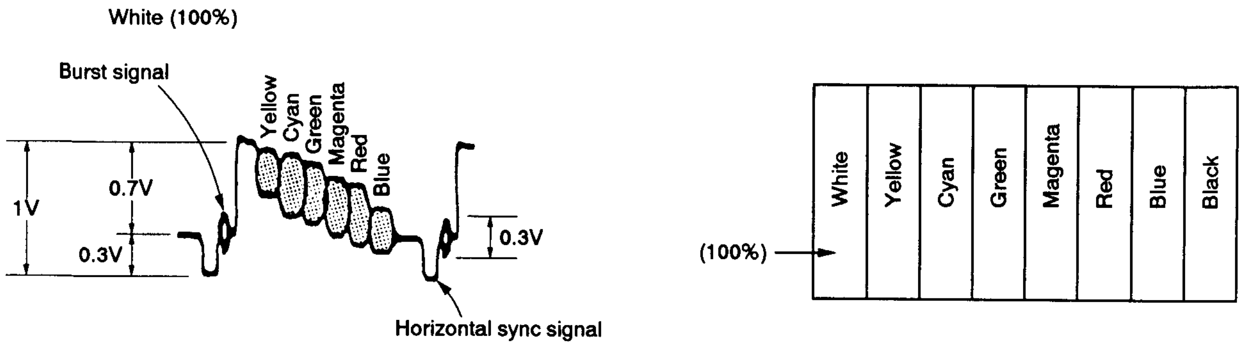
Name	Record -ing mode	Tape type	Tape speed	Usage
Tracking WR5-1CP	Standard 8 mm	MP	SP	Tape path adjustment Switching position adjustment
Video frequency characteristics WR5-7CE	Hi8	ME	LP	Frequency characteristics adjustment
Operation check WR5-5CSP	Standard 8 mm	MP	SP	Checking operations
Operation check WR5-8CSE	Hi8	ME	SP	
Operation check (LP mode) WR5-4CL	Standard 8 mm	MP	LP	
Operation check (LP mode) WR5-8CLE	Hi8	ME	LP	
AFM stereo Operation check WR5-9CS	Standard 8 mm	MP	SP	AFM stereo Checking operations
BPF adjustment WR5-11CS	Standard 8 mm	MP	SP	BPF adjustment

Tape type
MP.... Particle type metal tape
ME ... Evaporated type metal tape

Table 6-3-2.

Fig. 6-3-4. shows the 75% color bar signals recorded on the alignment tape.

Note: Measure using the video output terminal (Terminated at 75 Ω)


White (100%)
Burst signal
Yellow
Cyan
Green
Magenta
Red
Blue
1V
0.7V
0.3V
0.3V
Horizontal sync signal
(100%)
White
Yellow
Cyan
Green
Magenta
Red
Blue
Black

Color bar signal waveform

Color bar pattern

Fig. 6-3-4. Color Bar Signals of the Alignment Tape

3-1-8. Input/Output Level and Impedance

1. AEP, UK model (TYPE A/D/E)

Video output
Phono jack, 1 Vp-p, 75Ω,
unbalanced, sync negative
S video output (Hi8 model)
4-pin mini DIN
Luminance signal:
1Vp-p, 75Ω, unbalanced, sync negative
Audio output
Phono jack, –7.5 dBs
(at load impedance 47 kΩ)
impedance less than 2.2 kΩ

2. E, Australian, Hong Kong, Tourist model (TYPE B/C/F)

Video input/output
Phono jack, 1 Vp-p, 75Ω,
unbalanced, sync negative
S video input/output (Hi8 model)
4-pin mini DIN
Luminance signal:
1Vp-p, 75Ω, unbalanced, sync negative
Chrominance signal:
0.3Vp-p 75Ω, unbalanced
Audio input/output
Phono jack,
Input: –7.5 dBs, input impedance more than 47 kΩ
Output: –7.5 dBs, (at load impedance 47 kΩ), impedance less than 2.2 kΩ

3-1-9. Recording Mode (Standard 8/Hi8) switching (Hi8 model)

The record mode (Standard 8/Hi8) of this unit switches as shown in the following table. The playback mode (Standard 8/Hi8) switches automaticaly according to the recording mode of the tape played back.

Tape Used	Recording Mode
ME	Hi8
Hi8 MP	
MP	Standard 8

3-1-10. Service Mode

Additional note on adjustment

Note: After the completion of the all adjustments, cancell the service mode by either of the following ways.

1) Unplug the main power supply and remove the lithium battery. (In this case, date and time and menu setting have been set by users are canceled. Perform resetting.)
2) After data on page: D and F is restored, return data of the address: 01 on page: 0 to 00. And when data on page: 2 or page: 3 is changed, return the data to the original condition.

1. Test mode setting

Set/release each test mode. Set data: 01 to page: 0, address: 01 before setting the data of page D.

Page F	Address 29

Data	Function
00	Normal
01	Test mode Various emergency prohibitions and releases Drum emergency, capstan emergency, loading motor emergency, reel emergency, tape top and end, DEW detection

Page D	Address 10

Data	Function
00	Normal
01	Camera power ON
02	VTR power ON
03	Camera+VTR power ON

- * For page D and F, the data set will be recorded in the nonvolatile memory by pressing the PAUSE button on the adjusting remote commander. Take note that, in this case, the test mode will not be released even if the main power has been turned off (8.4 Vdc).
- * Be sure to return this address data to 00 after completing adjustments/repairs and press the PAUSE button of the adjusting remote commander. And set data: 00 to page: 0, address: 01.

2. Emergency Memory Address

Page F	Address 10 to 1B

Address	Contents
10	1st EMG code Target
12	Upper: MSW code when the mechanism starts shifting the 1st time Lower: MSW code when the 1st emergency occurs
13	Lower: Target MSW code of the 1st emergency occurs
14	2nd EMG code
16	Upper: MSW code when the mechanism starts shifting the 2nd time Lower: MSW code when the 2nd emergency occurs
17	Lower: Target MSW code of the 2nd emergency occurs
18	Last EMG code
1A	Upper: MSW code when the mechanism starts shifting the last time Lower: MSW code when the last emergency occurs
1B	Lower: Target MSW code of the last emergency occurs

When there are no emergency, data 00 will be written in the above addresses (10 to 1B). When the first emergency occurs, the data corresponding to the emergency will be written in the address (10 to 13) for this first emergency. In the same way, when the second emergency occurs, the data corresponding to the emergency will be written in the address (14 to 17) for this second emergency.

The data corresponding to the emergency occurring the last will be written in the address (18 to 1B) for this last emergency.

Therefore the data of addresses 18 to 1B are renewed each time an emergency occurs.

Note 1: Be sure to rewrite the data of addresses 10 to 1B to 00 after repairs/adjustments.

Note 2: When rewriting the data, be sure to press the PAUSE buttton of the remote commander after setting the data.

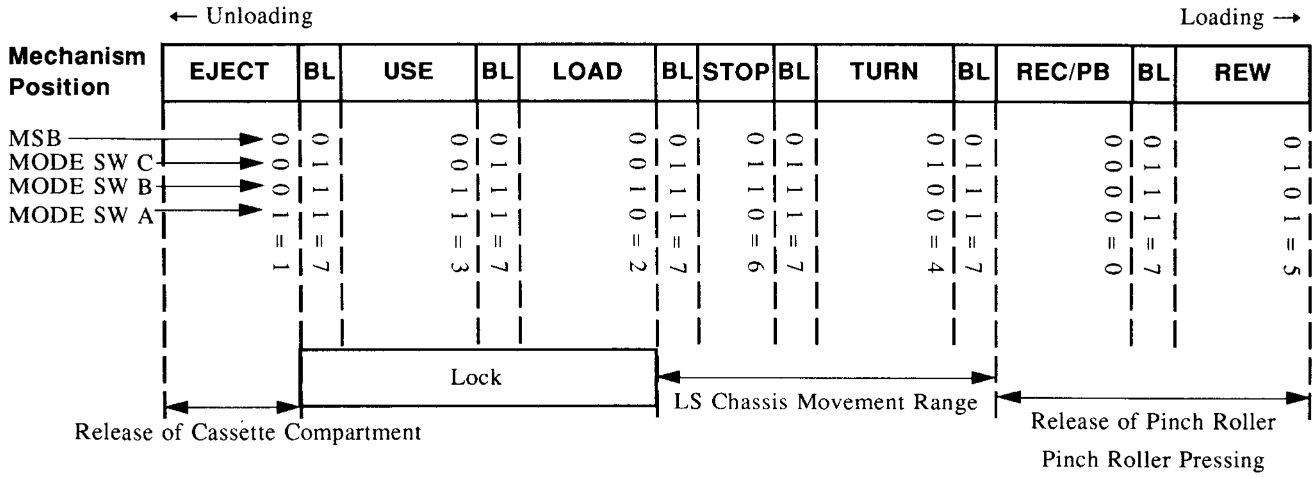
2-1. EMG CODE (Emergency Code)

The codes shown in the following table which correspond to errors that occur are recorded in addresses 10, 14, and 18.

Code	Type of Emergency
00	No error
10	Loading motor time-out during load
11	Loading motor time-out during unload
20	T reel emergency (reel slack) during unloading
21	S reel emergency (reel slack) during unloading
22	T reel emergency
23	S reel emergency
30	FG emergency at the start up of the capstan
31	FG emergency during the normal rotation of the capstan
40	FG emergency at the start up of the drum
41	PG emergency at the start up of the drum
42	FG emergency during the normal rotation of the drum
43	PG emergency during the normal rotation of the drum
44	Phase emergency during the normal rotation of the drum

2-2. MSW Codes

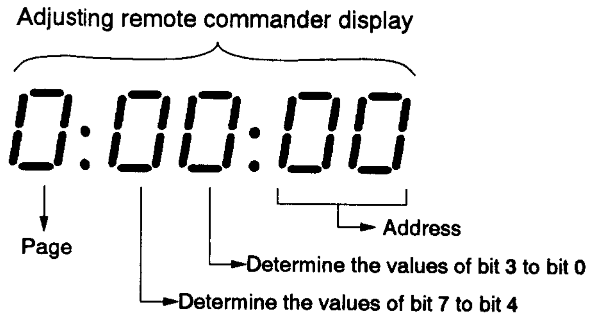
- The lower parts of the data of addresses 12, 16 and 1A represent the MSW codes (mode switch, mechanism position) when errors occurs.
- The upper parts of the data of addresses 12, 16 and 1A represent, when the mechanism position is to be moved, the MSW codes at the start of movement (when moving the loading motor).
- The lower parts of the data of addresses 13, 17 and 1B represent the MSW codes of the desired movement when the mechanism position is to be moved.


← Unloading
Loading →
Mechanism Position
EJECT
BL
USE
BL
LOAD
BL
STOP
BL
TURN
BL
REC/PB
BL
REW
MSB
MODE SW C
MODE SW B
MODE SW A
0001 = 1
0111 = 7
0011 = 3
0111 = 7
0010 = 2
0111 = 7
0110 = 6
0111 = 7
0100 = 4
0111 = 7
0000 = 0
0111 = 7
0101 = 5
Lock
LS Chassis Movement Range
Release of Cassette Compartment
Release of Pinch Roller
Pinch Roller Pressing

Mechanism Position	**MSW Code**	**Contents**
EJECT	1	Position at which the cassette compartment lock is released. The mechanism will not move any further in the unloading direction.
BL	7	BLANC code. Between two codes. The mechanism will not be stopped by this code while it is operating.
USE	3	EJECT completion position. When the cassette is ejected, the mechanism will stop at this position.
LOAD	2	Code during loading/unloading. Code that is used while the LS chassis is moving.
STOP	6	Normal stop position. The pinch roller separates, the tension regulator returns, and the brakes of both reels turn on.
TURN	4	Position at which is used when the pendulum gear swings from S to T or from T to S.
RECP/PB	0	PB, REC, CUE, REV, PAUSE, FF positions. The pinch roller is pressed and tension regulator is on.
REW	5	REW position. REW are carried at this position. The mechanism will not move any further in the loading direction.

3. Bit value discrimination

Bit values must be discriminated using the display data of the adjusting remote commander for the following items. Use the table below to discriminate if the bit value is "1" or "0".


Adjusting remote commander display
0:00:00
Page
Address
Determine the values of bit 3 to bit 0
Determine the values of bit 7 to bit 4

Remote controller display	Bit value			
	bit 3 or bit 7	bit 2 or bit 6	bit 1 or bit 5	bit 0 or bit 4
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
Ⓐ→ 8	1	0	0	0
9	1	0	0	1
A (A)	1	0	1	0
B (b)	1	0	1	1
C (c)	1	1	0	0
D (d)	1	1	0	1
Ⓑ→ E (E)	1	1	1	0
F (F)	1	1	1	1

(Example) If the remote commander display data is "8E", bit values from bit7 to bit4 can be discriminated from column Ⓐ, and those from bit3 to bit0 from column Ⓑ.

4. Input/output selection check

Page 3	Address 16

Bit	Function	When bit value = 1	When bit value = 0
0	Not S video terminal input		S video terminal input
1	Not video terminal input		Video terminal input
2	Audio terminal monaural	Monaural	
3	Easy connector monaural input	Monaural	
4			
5			
6			
7			

Using method:

1) Select address: 16 of page: 3.
2) By discriminating the bit value of the display data, the state of the input/output selection can be discriminated.

5. Condensation, head clogging check

Page 3	Address 17

Bit	Function	When bit value = 1	When bit value = 0
0	Condensation state (1 hour preservation)	Condensation	
1	Head clogging	Head clogging	
2			
3			
4			
5			
6			
7			

Using method:

1) Select address: 17 of page: 3.
2) By discriminating the bit value of the display data, the state of the VTR can be discriminated.

6. VTR state check (1)

Page 3	Address 18

Bit	Function	When bit value = 1	When bit value = 0
0	Video/audio circuit PB mode	PB mode	REC/E-E mode
1			
2			
3			
4	Head clog detection when REC	Head clog	
5			
6	Recorded tape playback	Playback	
7	Capstan rotation	Rotation	

Using method:

1) Select address: 18 of page: 3.
2) By discriminating the bit value of the display data, the state of the VTR can be discriminated.

7. VTR state check (2)

Page 3	Address 19

Bit	Function	When bit value = 1	When bit value = 0
0	Eject state	Eject state	
1	Cassette insertion state	Cassette in	
2	Cassette accidental erasure prevention	Accidental erasure prevention state	
3	Tape type	ME	MP
4	Tape type	Hi8 MP	NORMAL MP, ME
5	Crystal variable speed playback	Variable speed playback	
6	Variable speed playback mode	Variable speed playback mode	
7	DRUM	DRUM rotation	Stop

Using method:

1) Select address: 19 of page: 3.
2) By discriminating the bit value of the display data, the state of the VTR can be discriminated.

8. VTR state check (3)

Page 3	Address 1A

Bit	Function	When bit value = 1	When bit value = 0
0	Playback tape recording mode	Hi8	Standard 8
1			
2	Audio mode	Monaural	Stereo
3			
4			
5			
6			
7			

Using method:

1) Select address: 1A of page: 3.
2) By discriminating the bit value of the display data, the state of the VTR can be discriminated.

9. Record of Use Check

Page 3	Address E0 to E9

Address	Function		Remarks
E0	Service status		For checking reset. Normal = "FF". Reset: "00"
E1	Drum rotation counted time (BCD code)	Hour (H)	1000th place digit and 100th place digit of counted time (decimal digit) 10th place digit and 1st place digit of counted time (decimal digital)
E2		Hour (L)	
E3		Minute	
E4	User initial power on date (BCD code)	Year	After setting the clock, set the date of power on next
E5		Month	
E6		Day	
E7	Final condensation occurrence date (BCD code)	Year	
E8		Month	
E9		Day	

Using method:

1) The record of use data is displayed at addresses: E0 to E9 of page 3.

Note: This data will be erased when the coin lithium battery is removed (reset).

3-1-11.Page D Addrress

Note 1: The ← mark shown in the adjustment data memory column indicates that the address data is fixed and is the same as the initial value.

Note 2: The initial adjustment data value is the value after "Page D Data Initialization" and "Page D Data Modification" have been executed. It is different from the value after all adjustments have been executed.

Note 3: ( ): AEP, UK model (TYPE A/D/E)
[ ]: E, Australian, Hong Kong, Tourist model (TYPE B/C/F)
< >: CC867

Address	Adjustment Data					
	Initial Value					Memo Column
	CCD-TR910E	CCD-TR810E	CCD-TR760E, CC867	CCD-TR710E	CCD-TR610E	
10	00	00	00	00	00	←
11	07	06	06<86>	07	(06)[07]	←
12	FE	FC	FC	86	(84)[86]	←
13	06	01	01	06	01	←
14	17	17	17	07	07	←
15	F2	F2	F2	02	02	←
16	00	00	00	00	00	←
17	0C	0C	0C	0C	0C	←
18	00	00	00	0C	0C	←
19	16	16	16	16	16	←
1A	37	37	33	37	37	←
1B	15	15	15	11	11	←
1C	19	19	19	19	19	←
1D	00	00	00	00	00	
1E	00	00	00	00	00	
1F	10	10	10	10	10	←
20	00	00	00	00	00	
21	60	30	30	60	(30)[60]	←
22	09	08	07	07	06	←
23	10	10	60<FF>	10	10	←
24	12	12	12	12	12	
25	50	50	50	50	50	
26	04	04	04	04	04	
27	F9	EA	EA	F9	F9	
28	80	80	80	80	80	
29	85	85	85	85	85	
2A	91	91	91	91	91	
2B	A0	A0	A0	A0	A0	
2C	A8	A8	A8	A8	A8	
2D	05	05	05	05	05	←
2E	03	03	03	03	03	←
2F	01	01	01	01	01	←
30	05	05	05	05	05	←
31	73	73	73	73	73	←
32	24	24	24	24	24	←
33	CC	CC	CC	CC	CC	←
34	07	07	07	07	07	←

Table 6-3-3 (1).

Address	Adjustment Data					
	Initial Value					Memo Column
	CCD-TR910E	CCD-TR810E	CCD-TR760E, CC867	CCD-TR710E	CCD-TR610E	
35	80	80	80	80	80	
36	C9	C9	C9	C9	C9	←
37	02	02	02	02	02	←
38	02	02	02	02	02	←
39	04	04	04	04	04	←
3A	0A	0A	0A	0A	0A	
3B	32	32	32	32	32	
3C	08	08	08	08	08	←
3D	80	80	80	80	80	←
3E	00	00	00	00	00	
3F	04	04	04	04	04	←
40	38			38		
41	00			00		
42	20			20		
43	20			20		
44	82			82		
45	00			00		
46	88			88		
47	73			73		
48	A3			A3		
49	A6			A6		
4A	AD			AD		
4B	6F			6F		
4C	93			93		
4D	93			93		
4E	B0			B0		
4F	B4			B4		
50	48			48		
51	40			40		
52 to 63						

Table 6-3-3 (2).

3-2. SYSTEM CONTROL SYSTEM ADJUSTMENTS

1. Initialization of E, F Page Data

If the E, F page data is erased due to some reason, perform "Initialization of E, F Page Data", "Modification of F Page Data", and "Modification of E Page Data" of camera system adjustments.

2. Initialization of D Page Data

Note: If the D page data has been initialized, perform "Color Electronic Viewfinder System Adjustments" (TR710E/TR910E) and "Battery Down Adjustment" again.

Adjusting page	D
Adjusting address	10 to 63

Initialization method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 2D to page: 3, address: 00.
3) Set data: 2D to page: 3, address: 01, and press the PAUSE button of the adjusting remote commander.
4) Check that the data of page: 3, address: 02 is 01.
5) Set data: 29 to page: 3, address: 00.
6) Set data: 29 to page: 3, address: 01, and press the PAUSE button of the adjusting remote commander.
7) Set data: 00 to page: 0, address: 01.
8) After performing "Modification of D Page Data", perform "Color Electronic Viewfinder System Adjustments" (TR710E/TR910E) and "Battery Down Adjustment" again.

3. Modification of D Page Data

If the D page data has been initialized, change the data as shown in the following table by manual input.

Note 1: Before changing the data, set data: 01 to page: 0, address: 01.

Note 2: To write in the non-volatile memory (EEPROM) after changing the data, press the PAUSE button of the adjusting remote commander each time to set the data.

Note 3: After changing the data, set data: 00 to page: 0, address: 01, and perform "Color Electronic Viewfinder System Adjustments" (TR710E/TR910E) and "Battery Down Adjustment".

( ): AEP, UK model (TYPE A/D/E)
[ ]: E, Australian, Hong Kong, Tourist model (TYPE B/C/F)
< >: CC867

Address	CCD-TR910E	CCD-TR810E	CCD-TR760E, CC867	CCD-TR710E	CCD-TR610E
10	00	00	00	00	00
11	07	06	06<86>	07	(06)[07]
12	FE	FC	FC	86	(84)[86]
13	06	01	01	06	01
14	17	17	17	07	07
15	F2	F2	F2	02	02
16	00	00	00	00	00
17	0C	0C	0C	0C	0C
18	00	00	00	0C	0C
19	16	16	16	16	16
1A	37	37	33	37	37
1B	15	15	15	11	11
1C	19	19	19	19	19
1F	10	10	10	10	10
21	60	30	30	60	(30)[60]
22	09	08	07	07	06
23	10	10	60<FF>	10	10
24	12	12	12	12	12
25	50	50	50	50	50
26	04	04	04	04	04
27	F9	EA	EA	F9	F9
2D	05	05	05	05	05
2E	03	03	03	03	03
2F	01	01	01	01	01
30	05	05	05	05	05
31	73	73	73	73	73
32	24	24	24	24	24
33	CC	CC	CC	CC	CC
34	07	07	07	07	07
36	B8	B8	B8	B8	B8
37	02	02	02	02	02
38	02	02	02	02	02
39	00	00	00	00	00
3C	08	08	08	08	08
3D	80	80	80	80	80

4. Battery End Adjustment (VC-177 board)

Set the battery end voltage.
If the voltage is incorrect, the life of the battery will shorten. The image at the battery end will also be rough.

Mode	Camera record
Signal	Arbitrary
Measurement Point	LCD display of the adjusting remote control unit
Measuring Instrument	
Adjustment Page	D
Specified Value	28 to 2C, 35

Note: The lens block and cabinet (R) must be connected.

Switch setting
1) AUTO FOCUS switch .... OFF
2) VF PW-SAVE (Menu display) .... OFF
   (Color EVF model)

Connection:
1) Connect the regulated power supply and the digital voltmeter to the battery terminal as shown in Fig. 6-3-5.

Adjusting method:
1) Adjust the output voltage of the regulated power supply so that the digital voltmeter display is 6.1 ± 0.1 Vdc.
2) Load a cassette, and set to the camera recording mode.
3) Set data: 01 to page: 0, address: 01.
4) Decrease the output voltage of the regulated power supply so that the digital voltmeter display is 5.40 ± 0.01 Vdc.
5) Set data: 03 to page: 0, address: FF.
6) Set data: 01 to page: 2, address: 01.
7) Select page: 3, address: 31, read the adjusting remote commander display data, and this data is named Dref.
8) Set data: 00 to page: 2, address: 01.
9) Set data: 00 to page: 0, address: FF.
10) Set data Dref to page: D, address: 28, and press the PAUSE button of the adjusting remote commander.
11) Set the Dref to page: D, address: 35, and press the PAUSE button of the adjusting remote commander.
12) Convert Dref to decimal notation, and obtain Dref′. (Refer to Table 6-1-4. "Hexadecimal notation – decimal notation conversion table")
13) Calculate D29′, D2A′, D2B′ and D2C′ using following equations (decimal notation calculation).
    D29′ = Dref′+5
    D2A′ = Dref′+32
    D2B′ = Dref′+53
    D2C′ = Dref′+64
14) Convert D29′, D2A′, D2B′ and D2C′ to hexadecimal notation, and obtain D29, D2A, D2B and D2C.
15) Set data: D29 to page: D, address: 29, and press the PAUSE button of the adjusting remote commander.
16) Set data: D2A to page: D, address: 2A, and press the PAUSE button.
17) Set data: D2B to page: D, address: 2B, and press the PAUSE button.
18) Set data: D2C to page: D, address: 2C, and press the PAUSE button.
19) Set data: 00 to page: 0, address: 01.

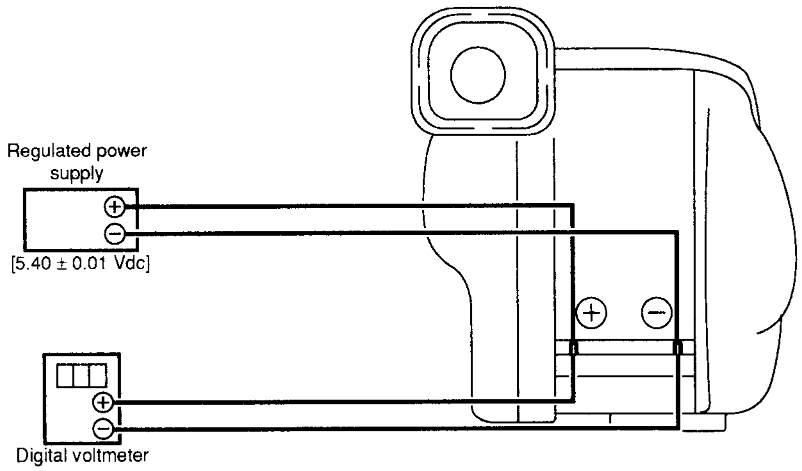


Fig. 6-3-5.

3-3. SERVO SYSTEM ADJUSTMENTS

1. CAP FG Offset Adjustment (VC-177 board)

Improve the capstan servo characteristic. If it is not correct, jitters will increase.

Mode	VTR record (SP mode)
Signal	Arbitrary
Measurement Point	Pin ③ of CPC (CAP FG) on FP-379 flexible board
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	5C
Specified Value	Duty = 50 ± 1.5%

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 81 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
3) Check that the data of page: 2, address: 02 is 01.
4) Check that Duty of CAP FG signal satisfies the specified value. If not, set data: 00 to page: 2, address: 01, and press the PAUSE button, and then, repeat steps 2) to 4).
5) Set data: 00 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
7) Set data: 00 to page: 0, address: 01.

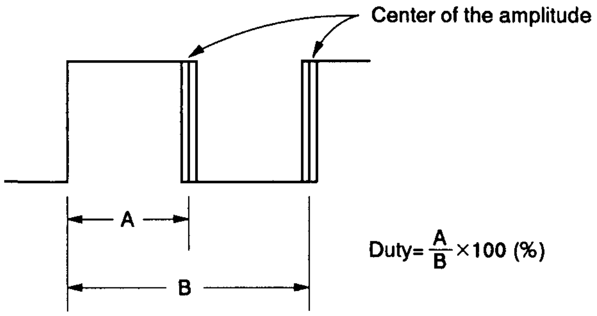


Fig. 6-3-6.

2. Switching Position Adjustment (VC-177 board)

If deviated in this case causes switching noise or jitter on the played back screen.

Mode	Playback
Signal	Alignment tape: For tracking adjustment (WR5-1CP)
Measurement Point	CH1: Pin ④ of CPC (RF SWP) on FP-379 flexible board CH2: Pin ⑨ of CPC (PB RF) on FP-379 flexible board
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	36, 37
Specified Value	t1 = 0 ± 10 µsec

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Change the data of page: F, address: 37 and minimize "t1", and press the PAUSE button of the adjusting remote commander. (Coarse adjustment)
3) Change the data of page: F, address: 36, and adjust so that the switching position (t1) becomes the specified value. (Fine adjustment)
4) Press the PAUSE button of the adjusting remote commander.
5) Set data: 00 to page: 0, address: 01.

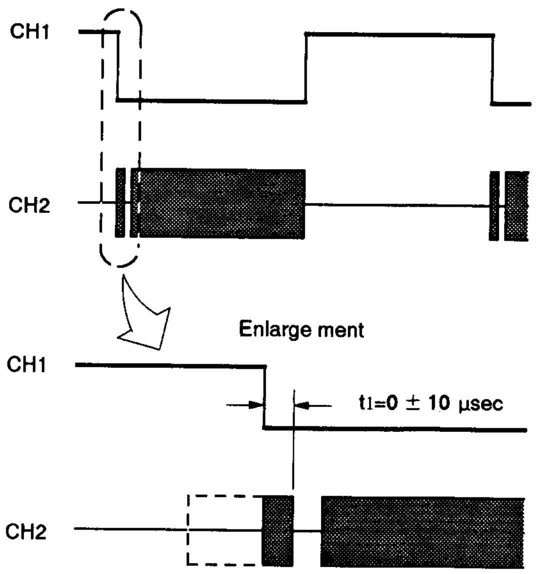


Fig. 6-3-7.

3-4. VIDEO SYSTEM ADJUSTMENTS

Video system adjustments must be performed in the following order.

[Adjusting Order]

1. 28 MHz origin oscillation adjustment
2. Filter f0 adjustment
3. Y OUT level adjustment
4. C OUT level adjustment
5. RP filter f0 adjustment
6. AFC f0 adjustment
7. REC Y current adjustment
8. REC C current adjustment

1. 28 MHz Origin Oscillation Adjustment (VC-177 board)

Set the frequency of the clock for synchronization.
If deviated, the synchronization will be disrupted and the color will become inconsistent.

Mode	Camera E-E
Subject	Arbitrary
Measurement Point	Pin ⑫ of IC202
Measuring Instrument	Frequency counter
Adjustment Page	F
Adjustment Address	3A
Specified Value	f = 14187500 ± 70 Hz

Note: If the x2 frequency is displayed, insert a 1 kΩ resistor between the measuring point and probe.

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Change the data of page: F, address: 3A, and set the oscillation frequency (f) to the specified value.
3) Press the PAUSE button of the adjusting remote commander.
4) Set data: 00 to page: 0, address: 01.

2. Filter f0 Adjustment (VC-177 board)

Minimize the chroma signal residual components during composite video signal input.

Mode	VTR stop
Signal	Color bar (Video input)
Measurement Point	Pin ⑬ of CPC of FP-379 flexible board (EZ I/O)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	66
Specified Value	Minimum residual chroma signal components

Note: Do not insert a plug into the S video terminal. (Hi8 model)

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 33 to page: 3, address: 01, and press the PAUSE button of the adjusting remote commander.
3) Change the data of page: F, address: 66, and minimize the residual chroma signal components (A).
4) Press the PAUSE button of the adjusting remote commander.
5) Set data: 00 to page: 3, address: 01, and press the PAUSE button of the adjusting remote commander.
6) Set data: 00 to page: 0, address: 01.

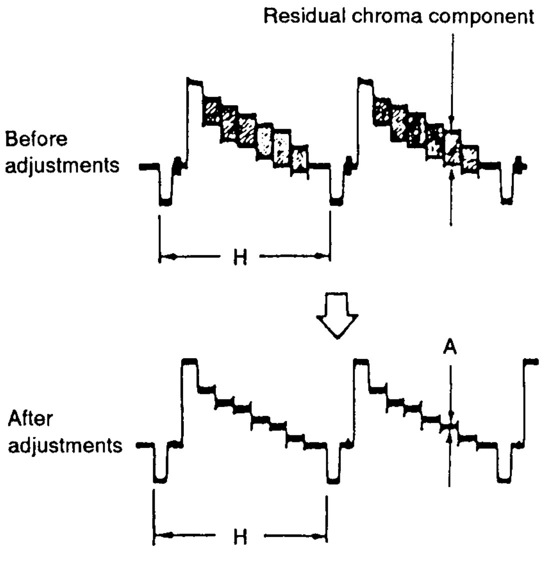


Fig. 6-3-8.

3. Y OUT Level Adjustment (VC-177 board)

Set the Y signal output level.

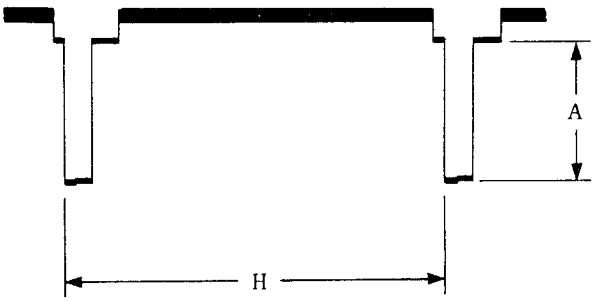
Mode	Camera E-E
Subject	Arbitrary
Measurement Point	Hi8 model: Y signal terminal of S VIDEO terminal (75Ω terminated) Standard 8 model: VIDEO terminal (75Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	62
Specified Value	A = 300 ± 5 mV

Note: Insert the plug into the S video terminal. (Hi8 model)

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 03 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
3) Change the data of page: F, address: 62, and set the SYNC level (A) to the specified value.
4) Press the PAUSE button of the adjusting remote commander.
5) Set data: 00 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
6) Set data: 00 to page: 0, address: 01.

Hi8 model



Standard 8 model

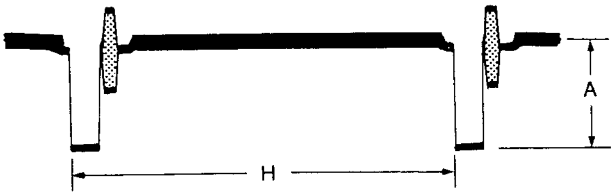


Fig. 6-3-9.

4. C OUT Level Adjustment (VC-177 board)

Set the chroma signal output level.

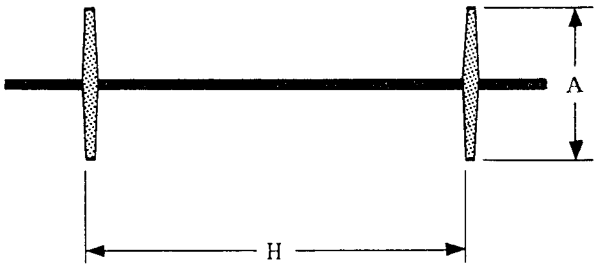
Mode	Camera E-E
Subject	Arbitrary
Measurement Point	Hi8 model: Chroma signal terminal of S VIDEO terminal (75Ω terminated) Standard 8 model: VIDEO terminal (75Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	64
Specified Value	A = 300 ± 5 mV

Note: Insert the plug into the S video terminal. (Hi8 model)

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 03 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
3) Change the data of page: F, address: 64, and set the burst level (A) to the specified value.
4) Press the PAUSE button of the adjusting remote commander.
5) Set data: 00 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
6) Set data: 00 to page: 0, address: 01.

Hi8 model



Standard 8 model

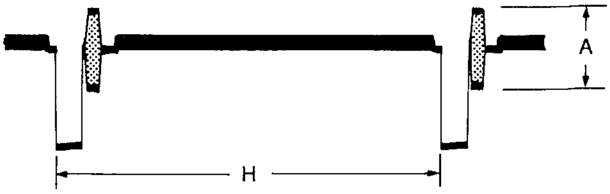


Fig. 6-3-10.

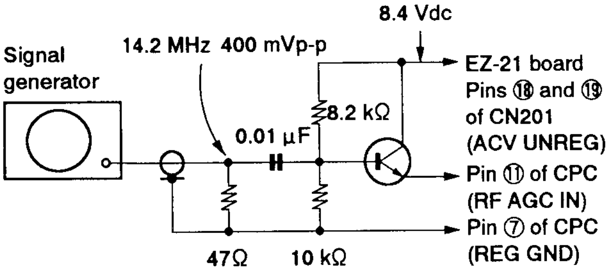
5. RP Filter fo Adjustment (VC-177 board)

Adjust the LPF of the playback RF amplifier.

Mode	Camera E-E
Subject	Arbitrary
Measurement Point	Pin ⑭ of CPC of FP-379 flexible board (RF AGC OUT)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	67
Specified Value	A = Below 10 mVp-p

Connection:

1) Input a 14.2 MHz, 400 mVp-p CW signal to Pin ⑪ of CPC of the FP-379 flexible board (RF AGC IN).



Transistor:	General NPN transistor (2SC403, etc.)
47 Ω resistor:	1-249-401-11
8.2 kΩ resistor:	1-249-428-11
10 kΩ resistor:	1-249-429-11
0.01 µF capacitor:	1-101-004-00

Fig. 6-3-11.

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 35 to page: 3, address: 01, and press the PAUSE button of the adjusting remote commander.
3) Memorize the data of page: D, address: 12 only for Standard 8 models, set data: 8E, and press the PAUSE button of the adjusting remote commander.
4) Change the data of page: F, address: 67, and minimize the 14.2 MHz signal level (A).
5) Press the PAUSE button of the adjusting remote commander.
6) Set the data memorized in step 3) to page: D, address: 12 only for Standard 8 models, and press the PAUSE button of the adjusting remote commander.
7) Set data: 00 to page: 3, address: 01, and press the PAUSE button of the adjusting remote commander.
8) Set data: 00 to page: 0, address: 01.

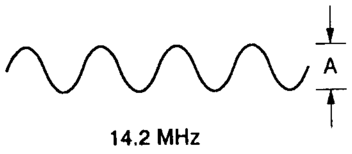


Fig. 6-3-12.

6. AFC fo Adjustment (VC-177 board)

Adjust the pull-in range of the A/D converted clock generator during playback.

Mode	VTR stop
Signal	Color bar (Video input)
Measurement Point	Pin ⑫ of CPC of FP-379 flexible board (AFC fo)
Measuring Instrument	Digital voltmeter
Adjustment Page	F
Adjustment Address	63
Specified Value	A = 2.2 ± 0.05 Vdc

Note: Do not insert the plug in the S video terminal. (Hi8 model)

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 31 to page: 3, address: 01, and press the PAUSE button of the adjusting remote commander.
3) Change the data of page: F, address: 63, and set the DC voltage (A) to the specified value.
4) Press the PAUSE button of the adjusting remote commander.
5) Set data: 00 to page: 3, address: 01, and press the PAUSE button of the adjusting remote commander.
6) Set data: 00 to page: 0, address: 01.

7. Hi8 REC Y Current Adjustment (VC-177 Board) (Hi8 model)

Adjust the Y FM signal recording current.

Mode	VTR recording (SP mode)
Signal	No signal
Measurement Point	Pin ⑥ of CPC of FP-379 flexible board (REC RF)
Measuring Instrument	Oscilloscope (20 MHz band limitation: OFF)
Adjustment Page	F
Adjustment Address	70, 71, 72, 73
Specified Value	A = 225 ± 5 mV

Adjusting method:

1) Insert a Hi8 ME tape, and set the recording mode.
2) Set data: 01 to page: 0, address: 01.
3) Note down the data of page: F, address: 76, set data: 00, and press the PAUSE button of the adjusting remote commander.
4) Note down the data of page: F, address: 77, set data: 00, and press the PAUSE button of the adjusting remote commander.
5) Input data: 00 to page: F, addresses: 70, 72, 73.
   Note: After setting the data, be sure to press the PAUSE button of the adjusting remote commander.
6) Change the data of page: F, address: 71, and set the REC Y signal level (A) to the specified value.
7) Press the PAUSE button of the adjusting remote commander.
8) Read the data (D71) of page: F, address: 71.
9) Input the read data (D71) to page: F, addresses: 70, 72, and 73.
   Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.
10) After setting the data noted down at step 3) for page: F, address: 76, press the PAUSE button of the adjusting remote commander.
11) After setting the data noted down at step 4) for page: F, address: 77, press the PAUSE button of the adjusting remote commander.
12) Set data: 00 to page: 0, address: 01.

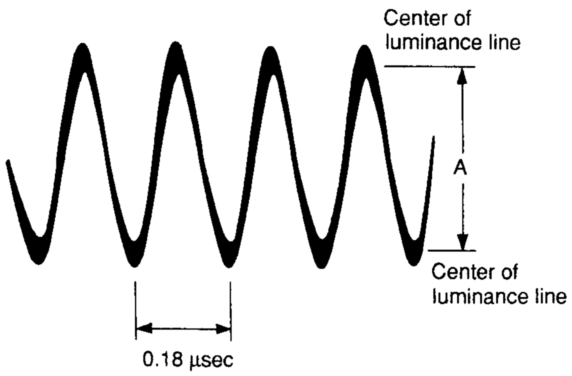


Fig. 6-3-13.

8. Standard 8 REC Y Current Adjustment (VC-177 Board) (Standard 8 model)

Adjust the Y FM signal recording current.

Mode	VTR recording (SP mode)
Signal	No signal
Measurement Point	Pin ⑥ of CPC of FP-379 flexible board (REC RF)
Measuring Instrument	Oscilloscope (20 MHz band limitation: OFF)
Adjustment Page	F
Adjustment Address	70, 71, 72, 73
Specified Value	A = 210 ± 5 mV

Adjusting method:

1) Insert a Hi8 ME tape, and set the recording mode.
2) Set data: 01 to page: 0, address: 01.
3) Note down the data of page: F and address: 76, then set data: 00 and press the PAUSE button of the adjusting remote commander.
4) Note down the data of page: F and address: 77, then set data: 00 and press the PAUSE button of the adjusting remote commander.
5) Set data: 00 to page: F, address: 70, and press the PAUSE button of the adjusting remote commander.
6) Change the data of page: F, address: 71, and set the REC Y signal level (A) to the specified value.
7) Press the PAUSE button of the adjusting remote commander.
8) Read the data (D71) of page: F, address: 71.
9) Input the read data (D71) to page: F, addresses: 70, 72, and 73.
   Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.
10) After setting the data noted at step 3) for page: F, address: 76, and press the PAUSE button of the adjusting remote commander.
11) After setting the data noted at step 4) for page: F, address: 77, and press the PAUSE button of the adjusting remote commander.
12) Set data: 00 to page: 0, address: 01.

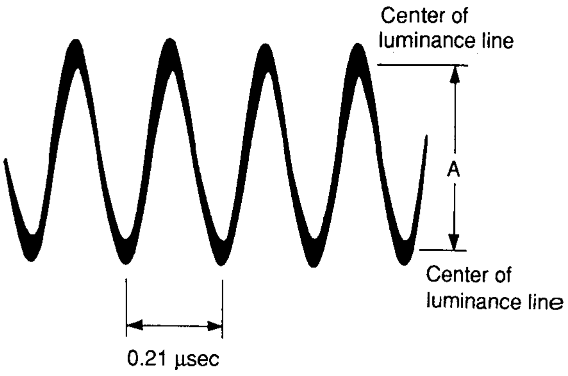


Fig. 6-3-14.

9. Hi8 REC C Current Adjustment (VC-177 Board) (Hi8 Model)

Adjust REC chroma signal recording current.

Mode	VTR recording (SP mode)
Signal	No signal
Measurement Point	CH1: Pin ⑥ of CPC of FP-379 flexible board (REC RF) CH2: Pin ④ of CPC of FP-379 flexible board (RF SWP)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	76 to 7D
Specified Value	A = 44.0 ± 1.6 mV

Connection:

1) Short-circuit R1157 (82Ω, near Pin ㉒ of IC102) using a jumper wire.
2) Short-circuit R1018 (10 kΩ) using a jumper wire.
3) Short-circuit R1113 (6.8 kΩ) using a jumper wire.

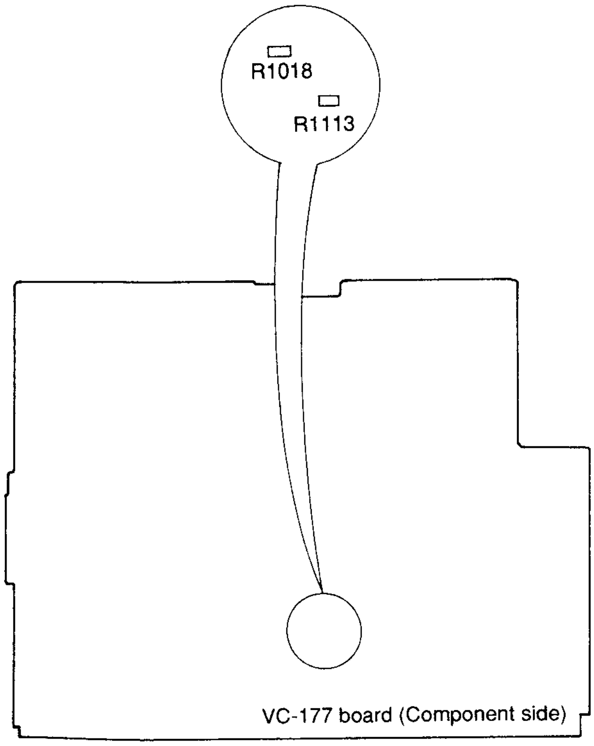


Fig. 6-3-15.

Adjusting method:

1) Insert a Hi8 ME tape, and set the recording mode.
2) Set data: 01 to page: 0, address: 01.
3) Set data: 30 to page: 2, address: 61.
4) Note down the data of page: F and address: 70, then set data: 00 and press the PAUSE button of the adjusting remote commander.
5) Note down the data of page: F and addresses: 71, 72, 73, then input data: 00 to each address.
   Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.
6) Change the data of page: F, address: 77, and set the REC chroma signal level (A) to the specified value.
7) Press the PAUSE button of the adjusting remote commander.
8) Read data (D77) of page: F, address: 77.
9) Input the read data (D77) to addresses: 76, 78, 79 of page: F.
   Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.
10) Convert D77 to a decimal number, to obtain D77′.
    (Refer to Table 6-1-4. Hexadecimal-Decimal Conversion Table).
11) Calculate the adjustment data (decimal) from the following equation (decimal calculation), convert it to a hexadecimal number, and input to each adjustment address.
    Address: 7A D7A′ = D77′ − 54
    Address: 7B D7B′ = D77′ − 54
    Address: 7C D7C′ = D77′ − 54
    Address: 7D D7D′ = D77′ − 54
    Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.
12) After setting the data noted down at step 4) for page: F, address: 70, press the PAUSE button of the adjusting remote commander.
13) After setting the data noted down at step 5) for page: F, address: 71, 72, 73, press the PAUSE button of the adjusting remote commander.
    Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.
14) Set data: 00 to page: 2, address: 61.
15) Set data: 00 to page: 0, address: 01.

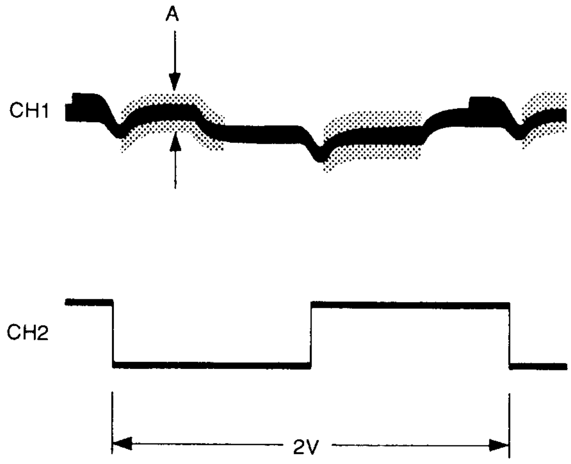


Fig. 6-3-16.

10. Standard 8 REC C Current Adjustment (Standard 8 model)

Adjust REC chroma signal recording current.

Mode	VTR recording (SP mode)
Signal	No signal
Measurement Point	CH1: Pin ⑧ of CPC of FP-379 flexible board (REC RF) CH2: Pin ④ of CPC of FP-379 flexible board (RF SWP)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	76 to 7D
Specified Value	A = 34.5 ± 1.2 mV

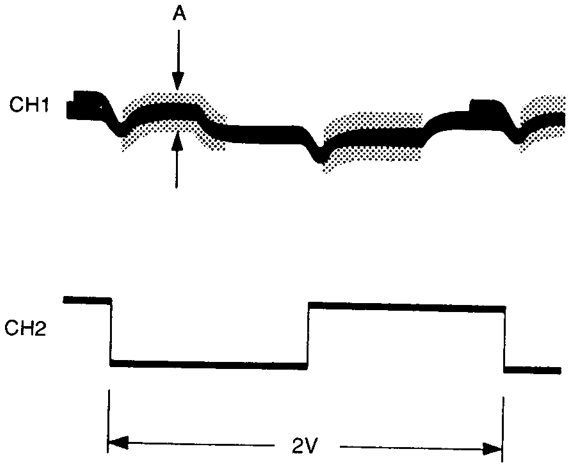


Fig. 6-3-17.

Connection:

1) Short-circuit R1157 (82Ω, near Pin ㉒ of IC102) using a jumper wire.
2) Short-circuit R1018 (10 kΩ) using a jumper wire.
3) Short-circuit R1113 (6.8 kΩ) using a jumper wire.

Adjusting method:

1) Insert a Hi8 ME tape, and set the recording mode.
2) Set data: 01 to page: 0, address: 01.
3) Set data: 30 to page: 2, address: 61.
4) Note down the data of page: F, address: 70, set data: 00, and press the PAUSE button of the adjusting remote commander.
5) Note down the data of page: F and address: 71, 72, 73 then input data: 00 to each address.
6) Change the data of page: F, address: 77, and set the REC chroma signal level (A) to the specified value.
7) Press the PAUSE button of the adjusting remote commander.
8) Read data (D_{77}) of page: F, address: 77.
9) Input the read data (D_{77}) to address: 76, 78, 79, 7A, 7B, 7C, 7D, of page: F.

   Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.
10) After setting the data noted down at step 4) for page: F, address: 70, press the PAUSE button of the adjusting remote commander.
11) After setting the data noted down at step 5) for page: F, address: 71, 72, 73, press the PAUSE button of the adjusting remote commander.

    Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.
12) Set data: 00 to page: 2, address: 61.
13) Set data: 00 to page: 0, address: 01.

3-5. AUDIO SYSTEM ADJUSTMENT

- Perform the adjustment using the color bar signal as a video signal input for VIDEO terminal.
- The items to be adjusted for the R channel will be indicated within the [ ], in regard to the adjusting items to be adjusted for both L and R channels.
- Set the Hi-Fi sound switch in the menu display to "STEREO" position unless specified otherwise.

Note:

1) When inputting the audio signal, input the same signal to both the L and R channels, unless specified otherwise.
2) Be sure to insert the plug (Shorting plug or dummy plug, etc) into the AUDIO terminal (Right). If the plug is not inserted, the monaural mode well be set, and correct adjustments can not be carried out.
   [Monaural mode]
   During recording .... REC AFM RF 1.7MHz carriear will not be output.
   During playback .... The L+R signal will be output from the AUDIO terminal (Left).

[Connecting the measuring instruments for the audio]

Connect the audio system measuring instruments in addition to the video system measuring instruments as shown in Fig. 6-3-18, and perform adjustments at the power switch [PLAYER or VTR] position.

[Adjustment Procedure]

1) 1.5 MHz deviation adjustment
2) 1.7 MHz deviation adjustment
3) BPF adjustment

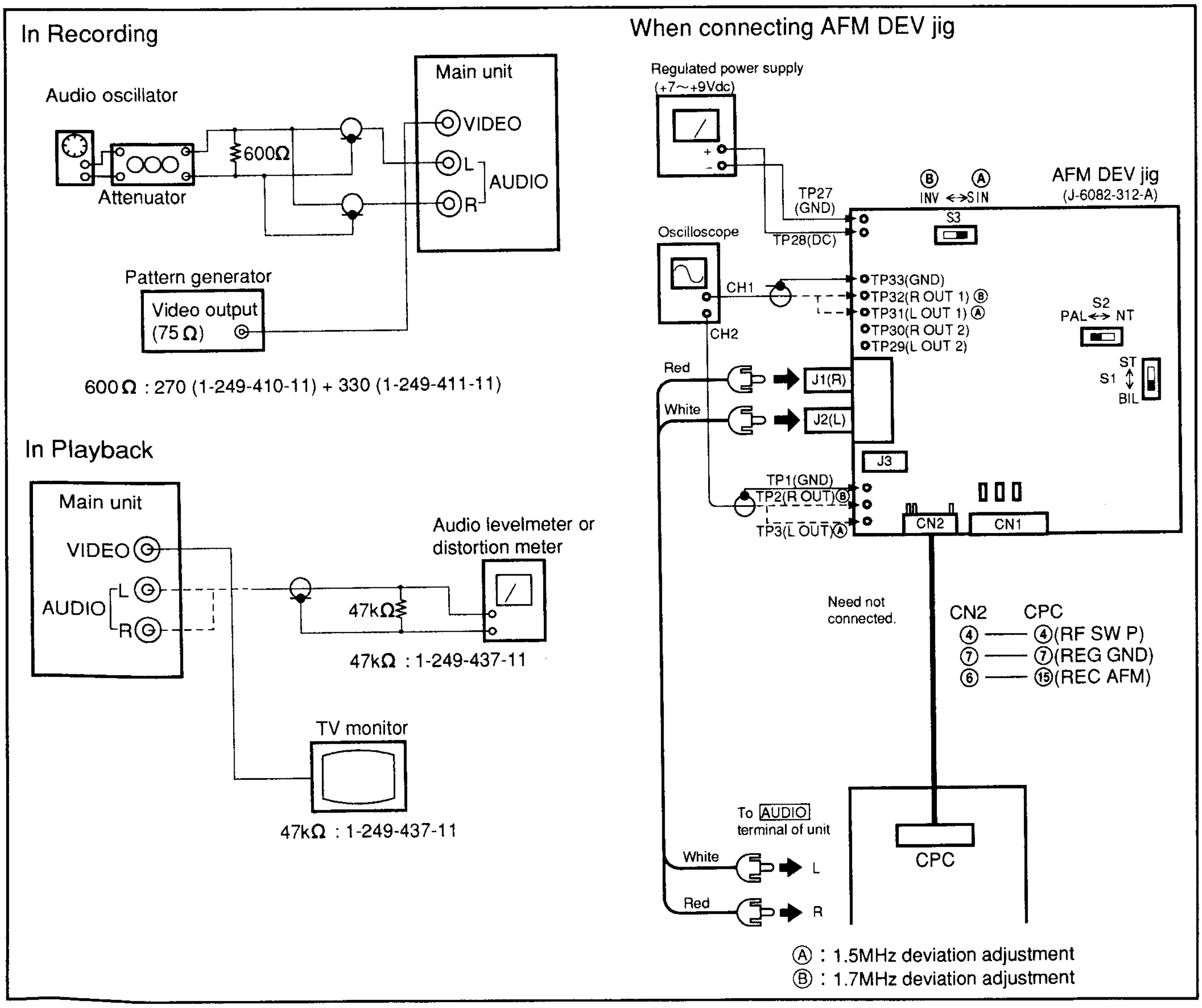

In Recording
Audio oscillator
Attenuator
600Ω
Main unit
VIDEO
L
R
AUDIO
Pattern generator
Video output
(75Ω)
600Ω : 270 (1-249-410-11) + 330 (1-249-411-11)
In Playback
Main unit
VIDEO
AUDIO
L
R
Audio levelmeter or distortion meter
47kΩ
47kΩ : 1-249-437-11
TV monitor
47kΩ : 1-249-437-11
When connecting AFM DEV jig
Regulated power supply
(+7~+9Vdc)
+
-
TP27
(GND)
TP28(DC)
Oscilloscope
CH1
CH2
TP33(GND)
TP32(R OUT 1) Ⓑ
TP31(L OUT 1) Ⓐ
TP30(R OUT 2)
TP29(L OUT 2)
Ⓑ Ⓐ
INV ↔ SIN
S3
AFM DEV jig
(J-6082-312-A)
S2
PAL ↔ NT
ST
S1
BIL
Red
White
J1(R)
J2(L)
J3
TP1(GND)
TP2(R OUT)Ⓑ
TP3(L OUT)Ⓐ
CN2
CN1
Need not connected.
CN2 CPC
④ —— ④(RF SW P)
⑦ —— ⑦(REG GND)
⑥ —— ⑮(REC AFM)
To AUDIO terminal of unit
White
L
Red
R
CPC
Ⓐ : 1.5MHz deviation adjustment
Ⓑ : 1.7MHz deviation adjustment

Fig. 6-3-18.

1. 1.5 MHz Deviation Adjustment

Sets the spectrum of the L-ch (L+R/2 signal) level modulated during recording. If deviated, the crosstalk of the audio signal will occur and the audio level will drop during both playback and recording.

Mode	VTR recording
Signal	Input the AFM DEV jig output signal to the right and left audio input terminals (Note 1)
Measuring point	CH1: AFM DEV jig TP31 CH2: AFM DEV jig TP3
Measuring device	Oscilloscope ADD mode CH2 INV mode
Adjustment page	F
Adjustment address	5E
Specified value	The difference between CH1 signal and CH2 signal should be minimum.

Connection:

1) Connect CN2 of the AFM DEV jig to CPC of the FP-379 flexible board.
2) Connect the audio output terminal (J1 and J2) of the AFM DEV jig to AUDIO terminal of the unit.
3) Connect TP28 (DC), TP27 (GND) of the AFM DEV jig to the DC power supply (+7 Vdc to +9 Vdc).
4) Set the AFM DEV jig switches to the following positions.
   S1 .... BIL position
   S2 .... PAL position
   S3 .... SIN position

Adjustment Method:

1) Match the vertical ranges of CH1 and CH2 of the oscilloscope to each other.
2) Set the oscilloscope to the ADD mode and CH2 to the INV (inverse) mode.
3) Set data: 01 to page: 0, address: 01.
4) Change the data of page: F, address: 5E and minimize the audio signal level difference (A).
5) Press the PAUSE button of the adjusting remote commander.
6) Set data: 00 to page: 0, address: 01.

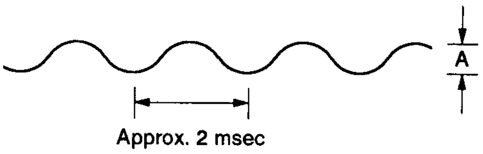


Fig. 6-3-19.

2. 1.7 MHz Deviation Adjustment

Sets the spectrum of the R-ch (L–R/2 signal) level modulated during recording. If deviated, the crosstalk of the audio signal will occur and the audio level will drop during both playback and recording.

Mode	VTR recording
Signal	Input the AFM DEV jig output signal to the right and left audio input terminals
Measuring point	CH1: AFM DEV jig TP32 CH2: AFM DEV jig TP2
Measuring device	Oscilloscope ADD mode CH2 INV mode
Adjustment page	F
Adjustment address	5F
Specified value	The difference between CH1 signal and CH2 signal should be minimum.

Connection:

1) Connect CN2 of the AFM DEV jig to CPC of the FP-379 flexible board.
2) Connect the audio output terminal (J1 and J2) of the AFM DEV jig to AUDIO terminal of the unit.
3) Connect TP28 (DC), TP27 (GND) of the AFM DEV jig to the DC power supply (+7 to +9 Vdc).
4) Set the AFM DEV jig switches to the following positions.
   S1 .... BIL position
   S2 .... PAL position
   S3 .... INV position

Adjustment Method:

1) Match the vertical ranges of CH1 and CH2 of the oscilloscope to each other.
2) Set the oscilloscope to the ADD mode and CH2 to the INV (inverse) mode.
3) Set data: 01 to page: 0, address: 01.
4) Change the data of page: F, address: 5F and minimize the audio signal level difference (A).
5) Press the PAUSE button of the adjusting remote commander.
6) Set data: 00 to page: 0, address: 01.

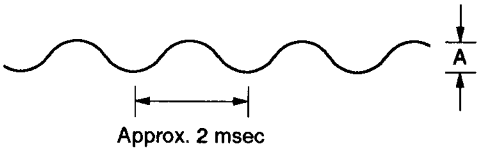


Fig. 6-3-20.

3. BPF fo Adjustment

Sets the BPF passing frequency so that the AFM signal can separate from the playback RF signal properly. If deviated. the mono/stereo mode will be differentiated incorrectly, and noises and distortions will increase during high volume playback.

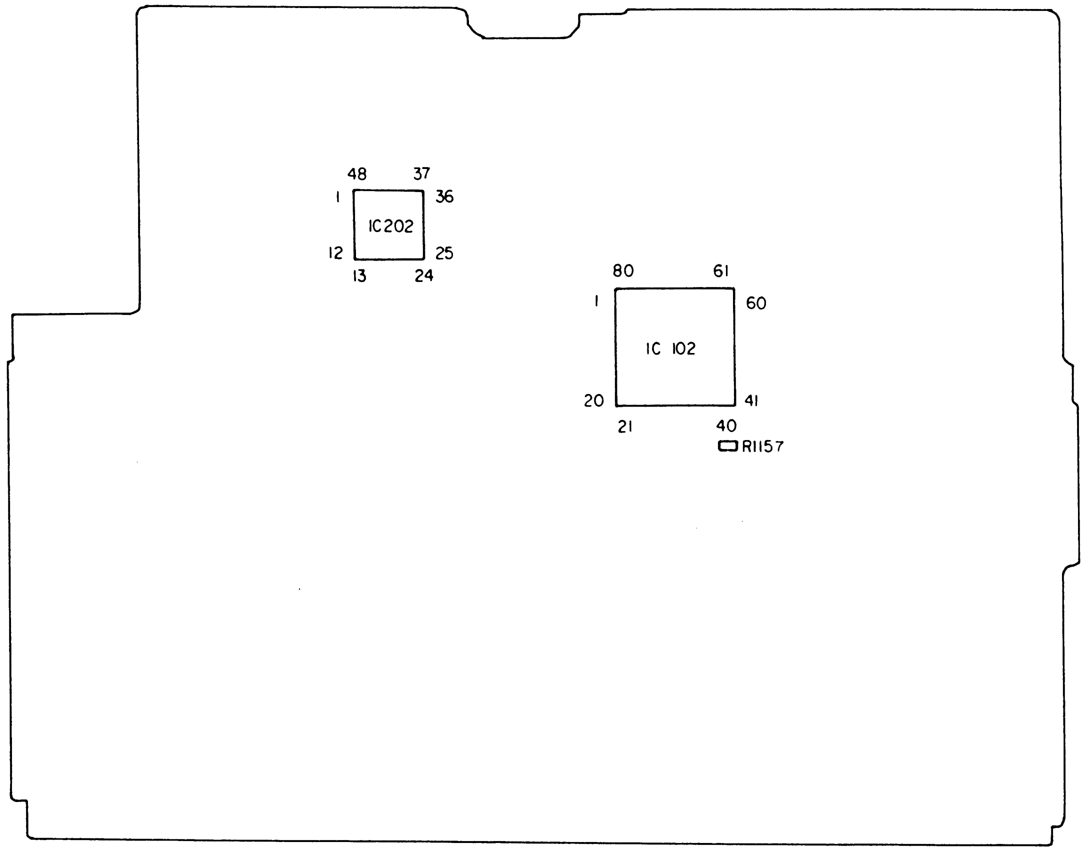
Mode	Playback
Signal	Alignment tape: For BPF adjustment (WR5-11CS)
Measuring point	Right or left audio output terminal
Measuring device	Distortion meter
Adjustment page	F
Adjustment address	60
Specified value	The right and left channel distortion rates should be almost the same (within ± 1%) and minimum

Adjustment Method:

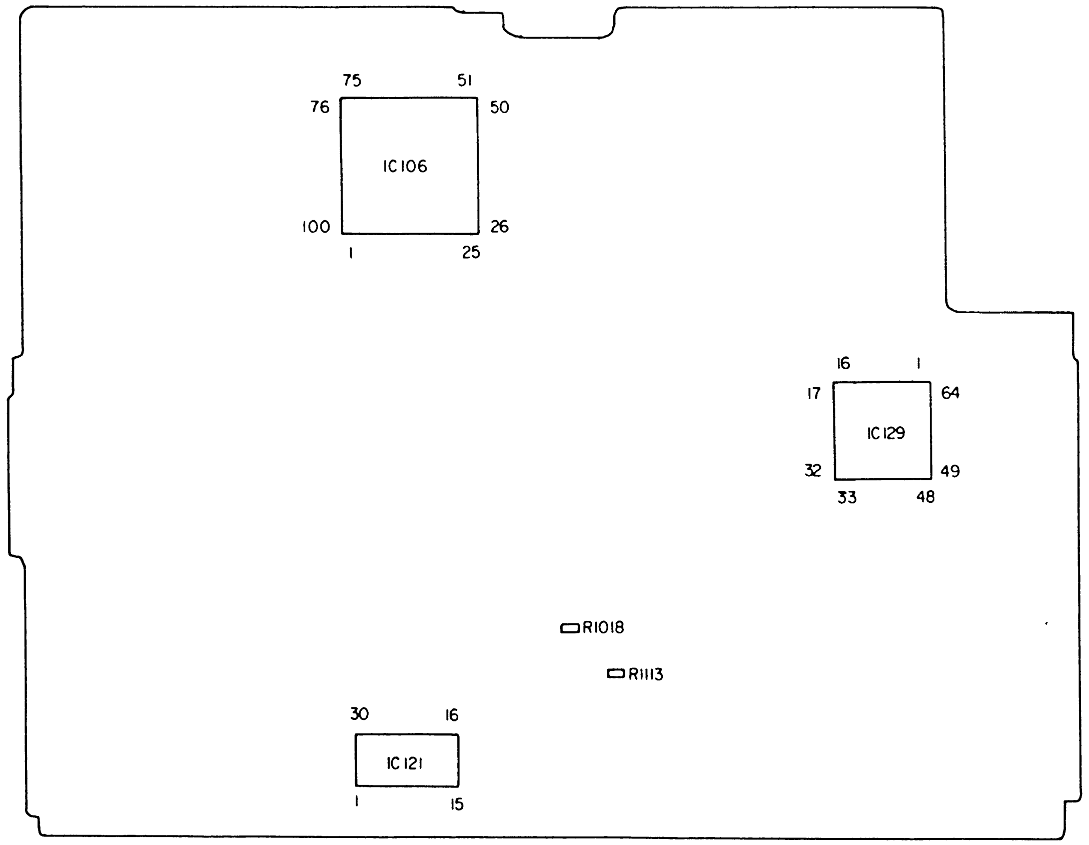
1) Set data: 01 to page: 0, address: 01.
2) Set the Hi-Fi sound switch (menu display) to " $\boxed{2}$ ".
3) Change the data of page: F, address: 60 and minimize the distortion rate.
4) Press the PAUSE button of the adjusting remote commander.
5) Set the Hi-Fi sound switch to " $\boxed{1}$ ".
6) Change the data of page: F, address: 60 and minimize the distortion rate.
7) Press the PAUSE button of the adjusting remote commander.
8) Repeat steps 2) to 7) and set the data of address: 60 so that the distortions rates when the Hi-Fi sound switch is set to " $\boxed{2}$ " and set to " $\boxed{1}$ " respectively are almost the same and minimum.
9) Press the PAUSE button of the adjusting remote commander.
10) Set data: 00 to page: 0, address: 01.
11) Set the Hi-Fi sound switch to "STEREO".

3-6. ARRANGEMENT DIAGRAM FOR ADJUSTMENT PARTS

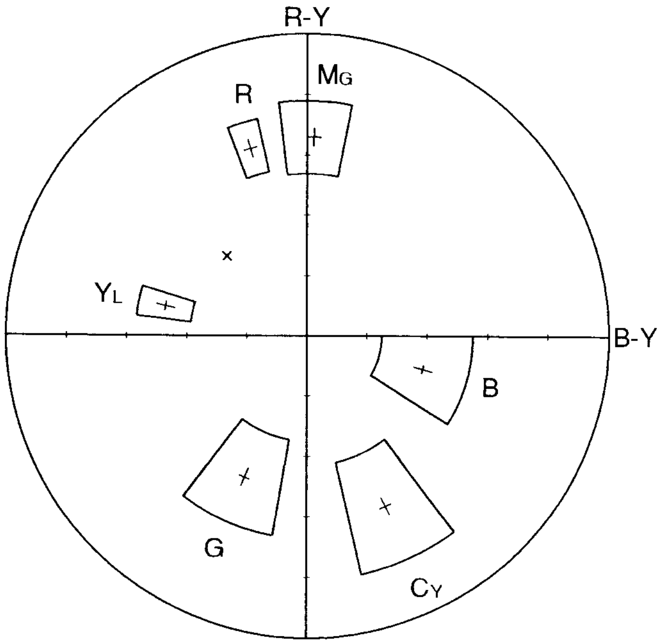
VC-177 BOARD (COMPONENT SIDE)



VC-177 BOARD (CONDUCTOR SIDE)



FOR CAMERA COLOR REPRODUCTION ADJUSTMENT

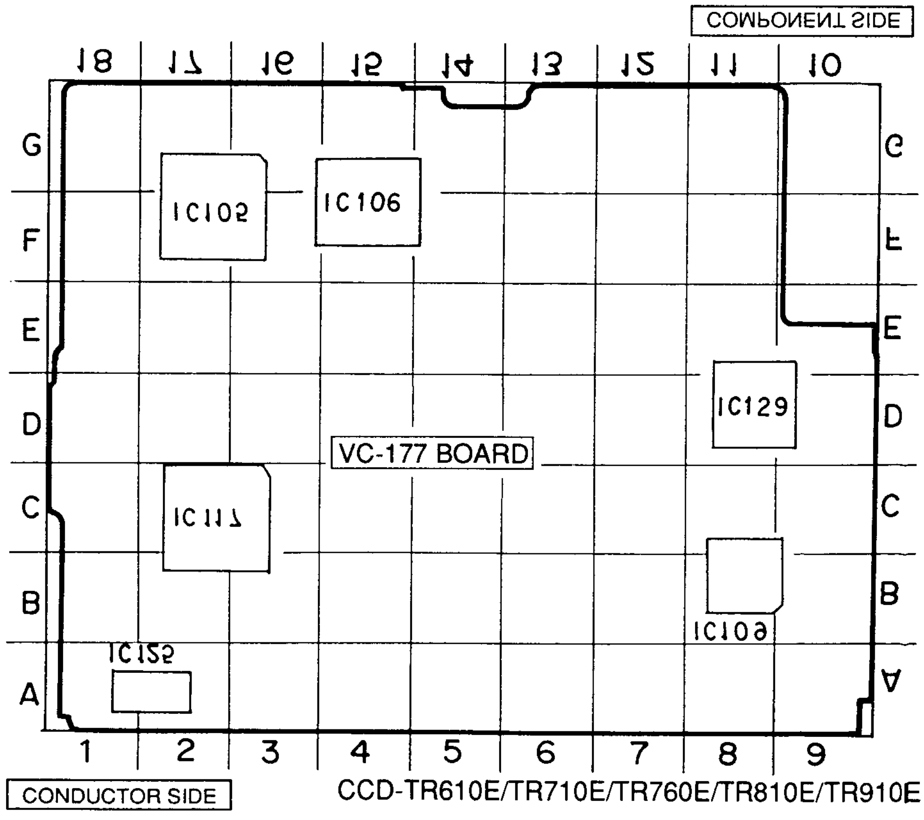

R-Y
MG
R
YL
B-Y
B
G
CY

CCD-TR610E/TR710E/TR760E/TR810E/TR910E

Take a copy CAMERA COLOR REPRODUCTION FRAME with a clear sheet for use.

<PARTS REFERENCE SHEET>

You can find the parts position of mount locations applying to boards of a set.


COMPONENT SIDE
18
17
16
15
14
13
12
11
10
G
F
E
D
C
B
A
IC102
IC106
IC129
VC-177 BOARD
IC117
IC109
IC152
1
2
3
4
5
6
7
8
9
CONDUCTOR SIDE

CCD-TR610E/TR710E/TR760E/TR810E/TR910E

CCD-TR610E/TR710E/TR760E/TR810E/TR910E

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Sony Corporation
Personal A&V Products Company

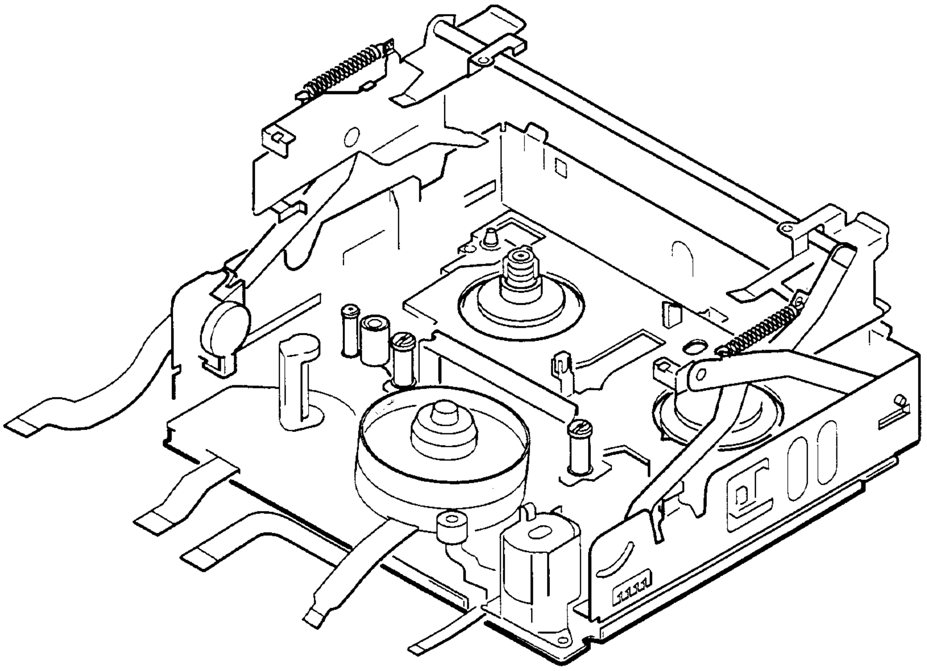
8mm Video MECHANICAL ADJUSTMENT MANUAL Ⅶ

V13917

B MECHANISM

Video8

Use this mechanical adjustment manual Ⅶ together with the service manual of the respective models.



MICROFILM

8 MECHANISM DECK

SONY®

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For the mode selector operation, schematic diagram and parts list, refer to the Supplement-1 Manual.

1. PREPARATION FOR CHECKING, ADJUSTING AND REPLACING THE MECHANISM

For the disassembly procedures of the cabinet and printed wiring boards, please refer to the "DISASSEMBLY" section of the service manual of the respective models.

To re-assemble the mechanical parts which are disassembled in the following sections, perform the disassembly steps in reverse, unless otherwise specified.

The mechanisms are adjusted while set in the USE mode of operation. (Refer to the "Mode Selector Operation Procedure of the Supplement-1 Manual for how to enter the USE mode.)

1-1. Cassette Compartment Block Assy

1. Disassembly Procedure (Refer to Fig. 1.)

1) Set the mechanism to USE mode.
2) Confirm that the Cassette Compartment Block Assy is opened. If it is not opened, open it referring to Fig. a.
3) Remove the claws Ⓐ and Ⓑ of the Damper Assy ① from the chassis.
4) Remove the washer ② from the shaft of the Cassette Compartment near the Drum, next to the loading motor. Remove the shaft of the arm from the slot.
5) Remove the shaft of the arm from the slot Ⓒ of the Cassette Compartment near the Drum, next to the capstan motor. (Refer to Fig. b)
6) Lift up the Cassette Compartment at the Drum side in the direction of the arrow Ⓓ, and remove the arm shaft of the Cassette Compartment from the LS Chassis ④ near the Reel Tables. Remove the Cassette Compartment Assy ③ in the direction of the arrow Ⓔ.

2. Precautions During Re-Assembling

1) After attaching the Tension Spring, confirm that the straight portion at the end of the curved hook of the spring is positioned inside the mechanism. (Refer to Fig. c)
2) Confirm that the claw in the bottom of the shaft near the Reel Table of the Cassette Compartment is hooked to the LS Chassis.
3) Confirm that the claw of the Damper Assy is hooked to the LS Chassis. (Refer to Fig. b)

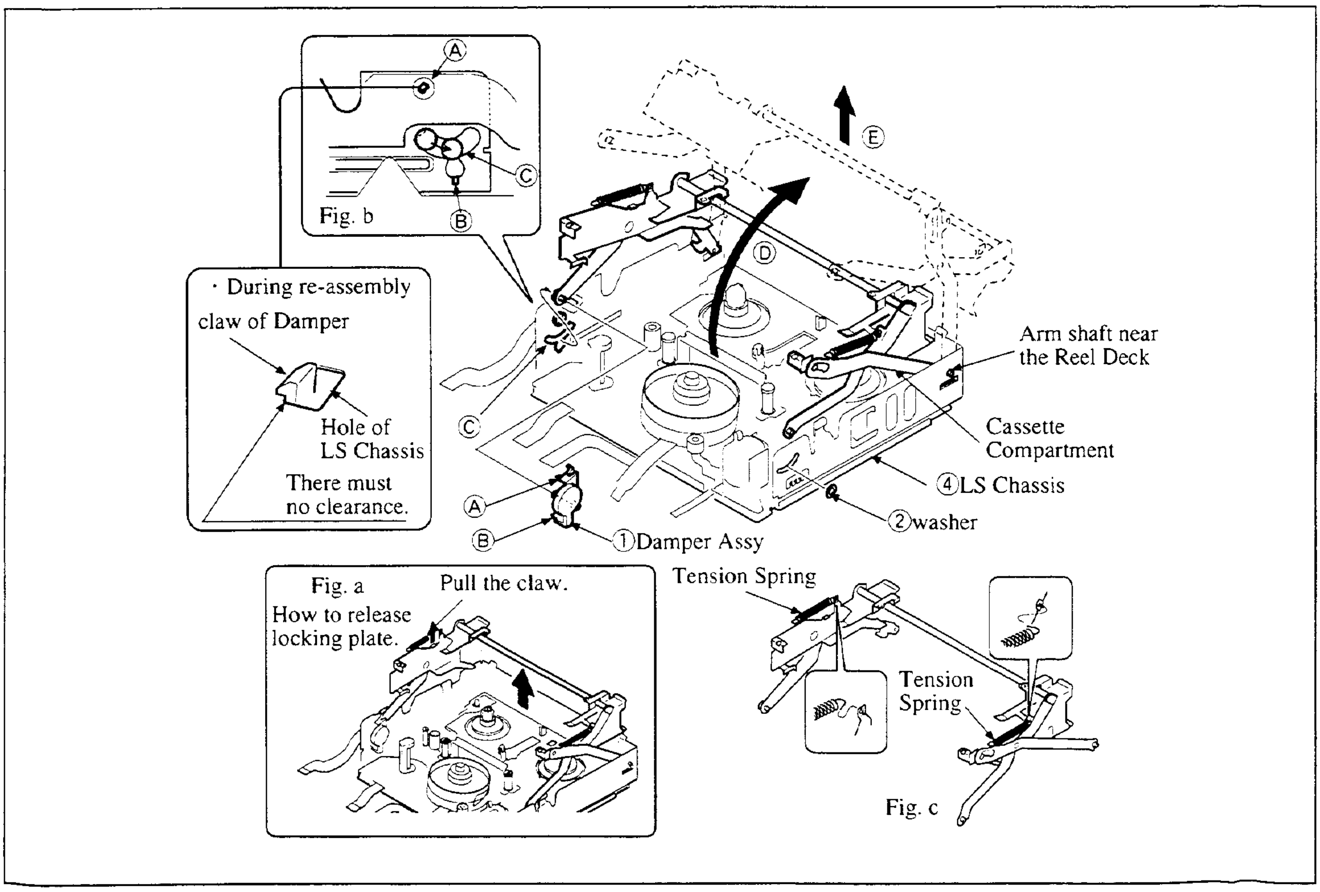

Ⓐ
Ⓒ
Fig. b
Ⓑ
· During re-assembly claw of Damper
Hole of LS Chassis
There must no clearance.
Ⓔ
Ⓓ
Arm shaft near the Reel Deck
Cassette Compartment
Ⓒ
④LS Chassis
Ⓐ
Ⓑ
②washer
①Damper Assy
Fig. a
Pull the claw.
How to release locking plate.
Tension Spring
Tension Spring
Fig. c

Fig. 1

1-2. How to Operate the Mechanism with the Cassette Compartment Block Assy Removed

1. How to load a cassette tape (Refer to Fig. 2):

1) While referring to section "DISASSEMBLY" of the respective service manual, turn the main power on with the cabinet and camera section removed. (It enables to operate the mechanical deck.)
2) Connect the adjustment remote commander (Ref. No. J-10) and establish the TEST mode.

> Example of establishing the TEST mode: model CCD-TR420E/TR440E.
> Select page: 6, address: 00, set data :01 and press the PAUSE button to release protection.
> Select page: 7, address: 01, set data: 01 and press the PAUSE button.
> After tape loading or other desired operations of mechanism are completed, be sure to perform the following:
> Select page: F, address: 01, set data :00 and press the PAUSE button.
> Select page: 6, address: 00, set data: 00 and press the PAUSE button.

3) Press the push-switch ① knob in the direction of the arrow which sets the machine into loading mode.

☆ PB, FF/REW and CUE/REV operations are possible.

2. How to establish RECORD mode:

1) Press pin of the push-switch ② (ON state) and keep the ON state by fixing with adhesive tape ③.
2) Turn the main power switch ON (select VTR or CAMERA position of in case of camera).
3) Set the RECORD switch to ON.
(When the TEST mode is selected, the rotation detection of the S and T reel tables is muted, and the top end sensor is disable which allow to run the tape.)

3. How to eject a cassette tape:

1) Press the EJECT switch to ON.

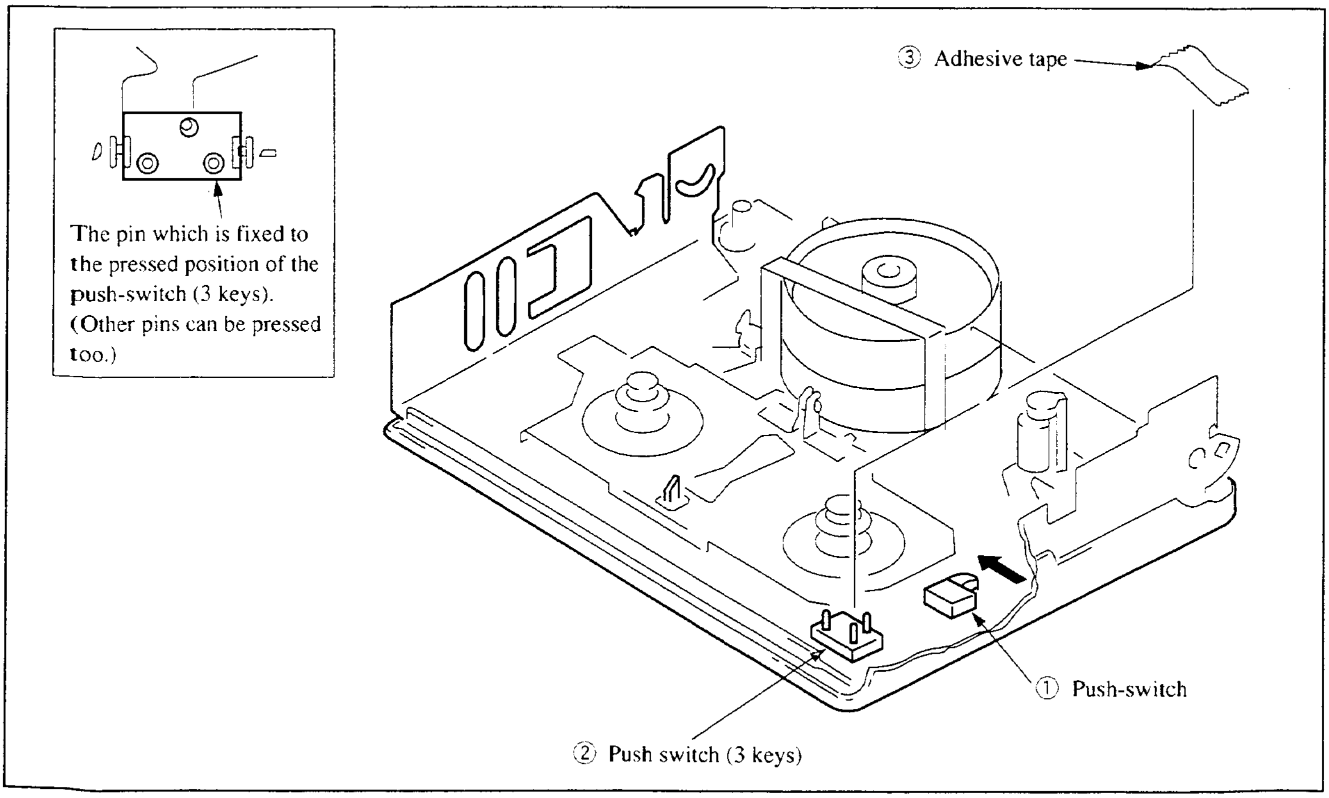

The pin which is fixed to the pressed position of the push-switch (3 keys). (Other pins can be pressed too.)

Fig. 2

2. PERIODIC CHECK AND MAINTENANCE ITEMS

- Perform the following periodic check and maintenance to ensure that the machine functions continue to operate in peak condition, and to protect the tape and mechanism deck. After completing repair work, perform the following maintenance items regardless of how long the user's machine has been used.

2-1. Rotary Drum Assy Cleaning

Press the cleaning piece (Ref. No. J-2) moistened with cleaning fluid (Ref. No. J-1) lightly on the Rotary Drum Assy. Gently turn the Rotary Drum Assy slowly by hand counter-clockwise to clean the rotary drum.

Caution: Never attempt to turn the head drum motor by turning the main power ON. Also, never turn the drum clockwise by hand. In addition, never move the cleaning piece vertically with respect to the head tips, since this will damage them. Never clean the head drum in any way other than as described above.

2-2. Tape Path Cleaning (Refer to Fig. 3.)

1) Set the mechanism to USE mode. Clean the tape path system (TG-1, TG-2, TG-3, TG-4, pinch roller, capstan shaft) and lower drum using a very thin cotton swab (Ref. No. J-3) moistened with cleaning fluid.

Caution: Take care that the very thin cotton swab (Ref. No. J-3) does not touch the oil or grease of the various link mechanisms.

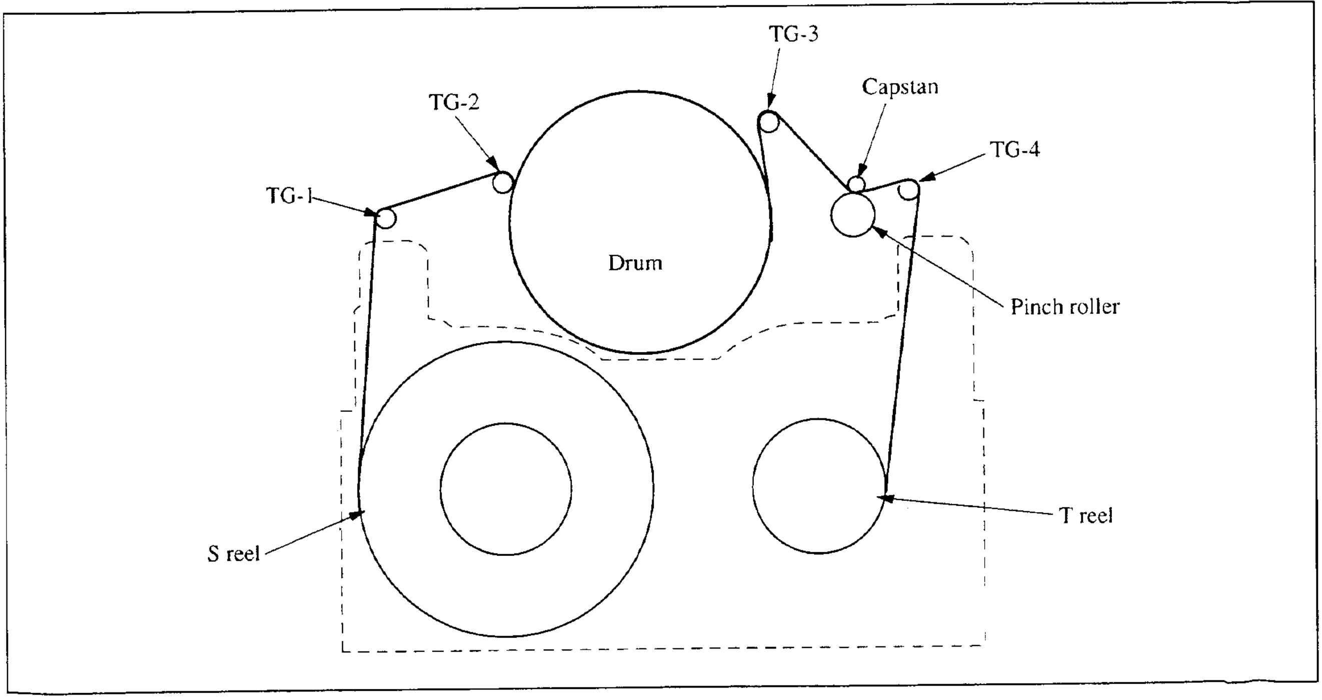


Fig. 3

2-3. Periodic Check Items

Maintenance and Inspection Points		Operating Hours										Remarks
		500	1000	1500	2000	2500	3000	3500	4000	4500	5000	
	Cleaning of tape running surface	○	○	○	○	○	○	○	○	○	○	Take care not to get oily.
	Cleaning and degaussing of Rotary Drum Assy	○	○	○	○	○	○	○	○	○	○	Take care not to get oily.
Drive System	Timing Belt	—	☆	—	☆	—	☆	—	☆	—	☆	3-965-546-01
	Capstan Shaft	—	◎	—	◎	—	◎	—	◎	—	◎	Take great care not to let any oil contact the tape running surface.
	Change Gear Shaft Relay Pulley Shaft	—	◎	—	◎	—	◎	—	◎	—	◎	
	Loading Motor	—	☆	—	☆	—	☆	—	☆	—	☆	X-3945-401-1
Performance Check	Abnormal Sound	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	
	Tape Hold-back Tension Measurement	—	☆	—	☆	—	☆	—	☆	—	☆	
	Brake System	—	☆	—	☆	—	☆	—	☆	—	☆	
	FWD RVS } Torque Measurement	—	☆	—	☆	—	☆	—	☆	—	☆	

○Cleaning ◎Lubrication ☆Check

Note: When overhauling the machine, replace the parts while referring to the above table.

Note: Regarding oil

- Be sure to use the specified oil. (If the viscosity and other characteristics are different, various troubles may arise.)
  Oil: Sony part No. 7-661-018-18
  (Mitsubishi diamond oil hydro fluid NT-68)
- For the oil lubricated bearings, use oil free from dust or foreign materials. If the oil contains any dust or foreign material, the bearings will wear out quickly or burn out.
- One drop of oil is the amount of oil which forms at the tip of a stick of 2 mm diameter.

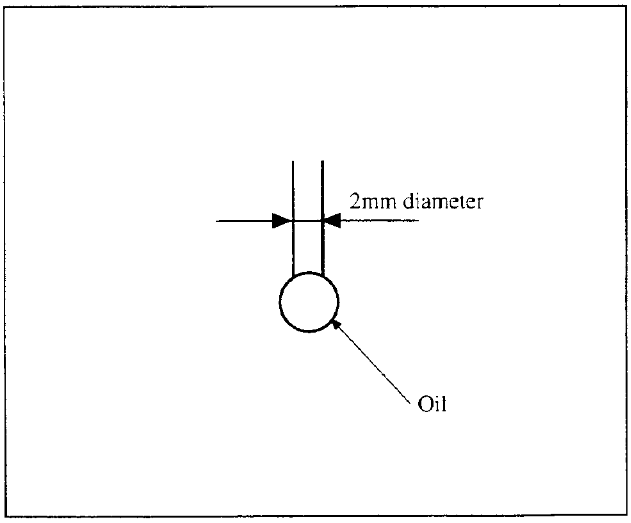


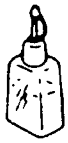
Fig. 4

2-4. Service Tool List

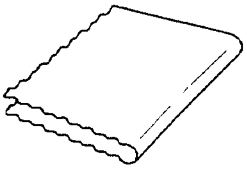
Ref. No.	Name	Parts Code	Tool Stamp	Applications
J-1	Cleaning fluid	Y-2031-001-0	——	
J-2	Cleaning piece	2-034-697-00	——	
J-3	Very thin cotton swab (made by Nippon Cotton Swab Inc. (P752D))		——	
J-4	Head demagnetizer	Commercially available	——	
J-5	Dental mirror Spare mirror	J-6080-029-A J-6080-030-1	SL-5052	Tape path
J-6	Alignment tape (NTSC : WR5-1NP) Alignment tape (PAL : WR5-1CP)	8-967-995-02 8-967-995-07	——	Tape path
J-7	FWD/RVS take-up torque cassette	J-6080-824A	GD-2086	
J-8	Screwdriver for tape path adjustment	J-6082-026-A	——	For tape guide adjustment
J-9	FWD/BACK tension adjustment screwdriver	J-6082-187-A	——	
J-10	Remote commander for adjustment	J-6082-053-B	——	Tape path (Setting PATH mode)
J-11	MD process table	J-6082-166-A	——	
J-12	FLOIL Grease SG-941	7-662-001-39	——	
J-13	FLOIL Grease SG-055G	7-651-000-09	——	

Other equipment
- Oscilloscope
- Analog circuit tester (input impedance 20 kΩ)

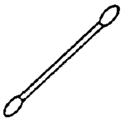
J-1



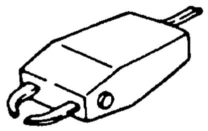
J-2



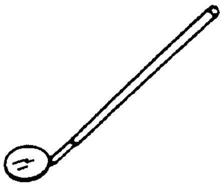
J-3



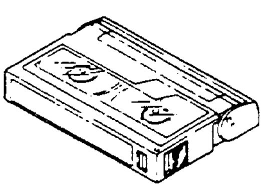
J-4



J-5



J-6



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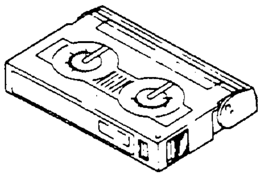
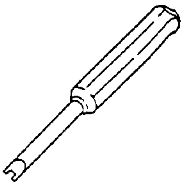
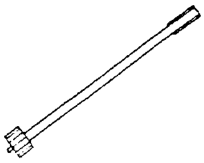


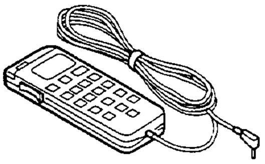
J-8



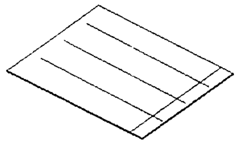
J-9



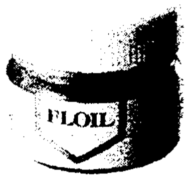
J-10



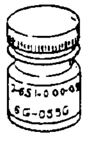
J-11



J-12



J-13



3. CHECKING, ADJUSTING AND REPLACING THE MECHANISM

3-1. HC Roller Block Assy (Refer to Fig. 5)

1. Disassembly Procedure

1) Remove the Torsion Spring ① from the cut-out Ⓐ of the motor holder. Hook it to the claw Ⓑ of the HC Arm.
2) Remove the HC Roller Block Assy in the direction shown by Ⓒ.
3) Remove the stop washer ② and remove the HC Roller Block Assy ③.

2. Precautions During Re-Assembly

1) After attaching the HC Roller Block Assy, confirm that both ends of the torsion spring are hooked to Ⓐ and Ⓓ.
2) Align the block so that the cut-out Ⓔ agrees with the rib Ⓕ.

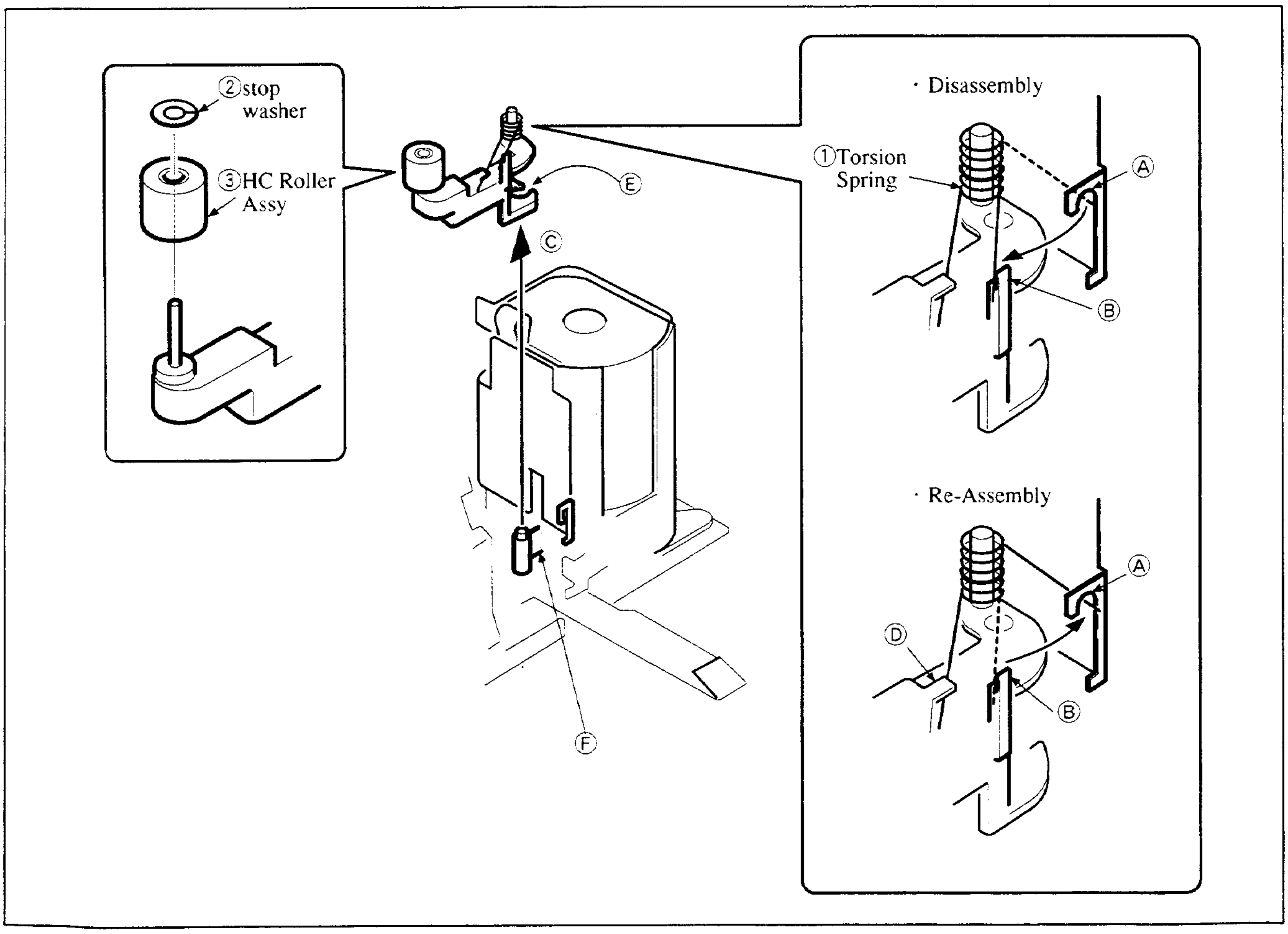

②stop washer
③HC Roller Assy
Ⓔ
Ⓒ
Ⓕ
· Disassembly
①Torsion Spring
Ⓐ
Ⓑ
· Re-Assembly
Ⓓ
Ⓐ
Ⓑ

Fig. 5

3-2. Drum Assy (Refer to Fig. 6)

1. Disassembly Procedure

1) Set the mechanism to $\boxed{\text{USE}}$ mode.
2) Remove the three screws (M 1.4) ① and remove the Drum Assy ②.

Caution: Be careful not to touch the outer circumference of the drum. (Hold the portions Ⓐ and Ⓑ of the drum assy.)

2. Precautions During Re-Assembly

1) Be careful not to touch the outer circumference of the drum. (Hold the portions Ⓐ and Ⓑ of the drum assy.)
2) When tightening the three screws (M 1.4), tighten them in the order Ⓒ, then Ⓓ, then Ⓔ.
3) After attaching the Drum Assy, perform the steps in section "4. TAPE PATH ADJUSTMENT".

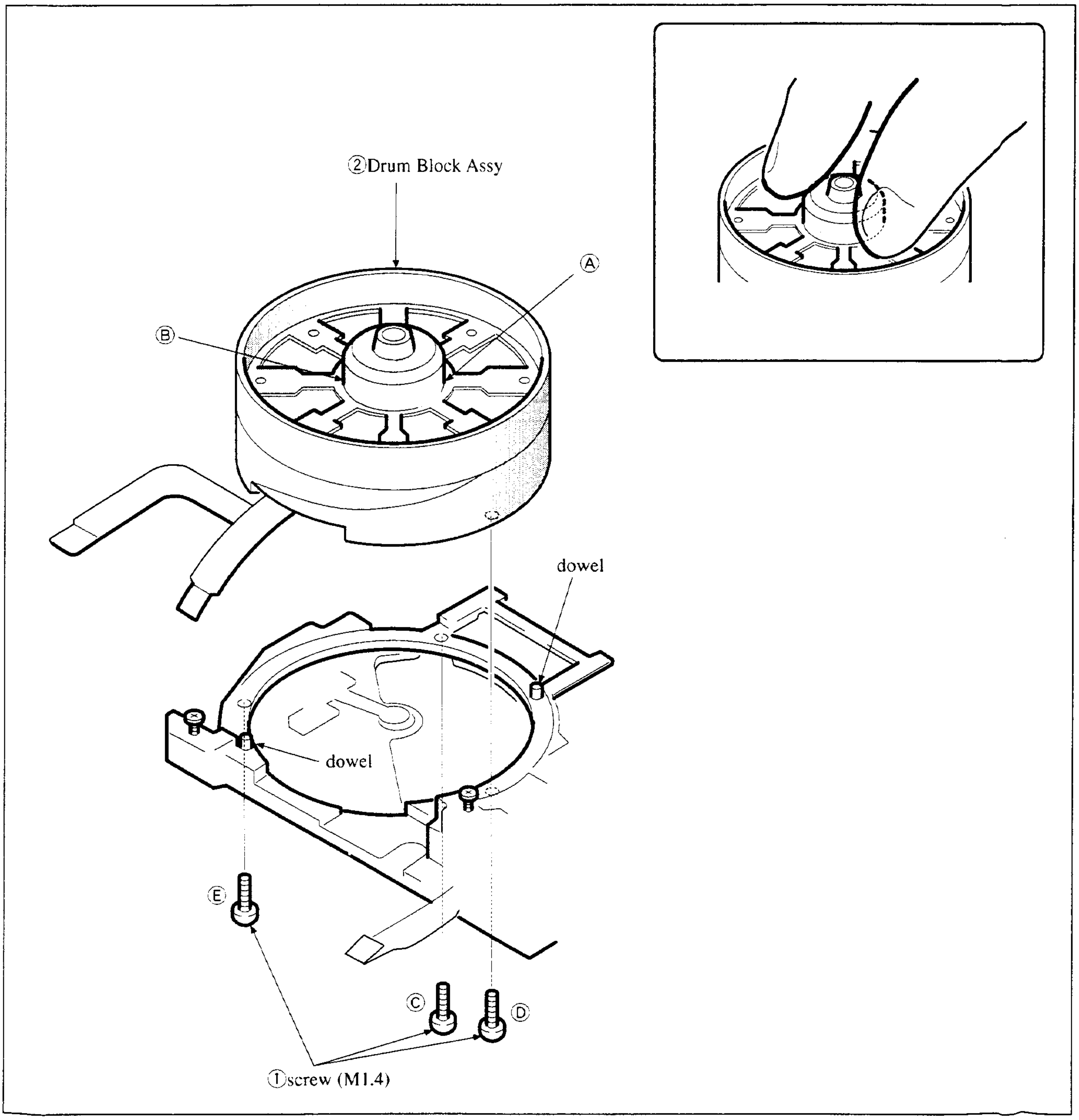


Fig. 6

3-3. Drum Base Block Assy, Shaft Ground (Refer to Fig. 7)

1. Disassembly Procedure

1) Remove the Drum Assy referring to section 3-2.
2) Remove the three screws (M 1.4×2.5) ① and remove the Drum Base Block Assy ②.
3) Remove the screw (M 1.7×1.4) ③ and remove the Shaft Ground ④.

Caution 1: Do not hold the spring portion of the Shaft Ground ④.

Caution 2: The loading motor can be removed while the mechanism is in this state. However, do not move any other mechanical parts (especially gears and cams around the rotary switch) when removing the loading motor. (Refer to 3-11.)

2. Precautions During Re-Assembly

1) Do not touch the spring portion of the Shaft Ground ④.
2) When tightening the three screws (M 1.4×2.5), tighten them in the order of Ⓐ, then Ⓑ, then Ⓒ.
3) After re-assembly is completed, perform the steps in section "4. TAPE PATH ADJUSTMENT".

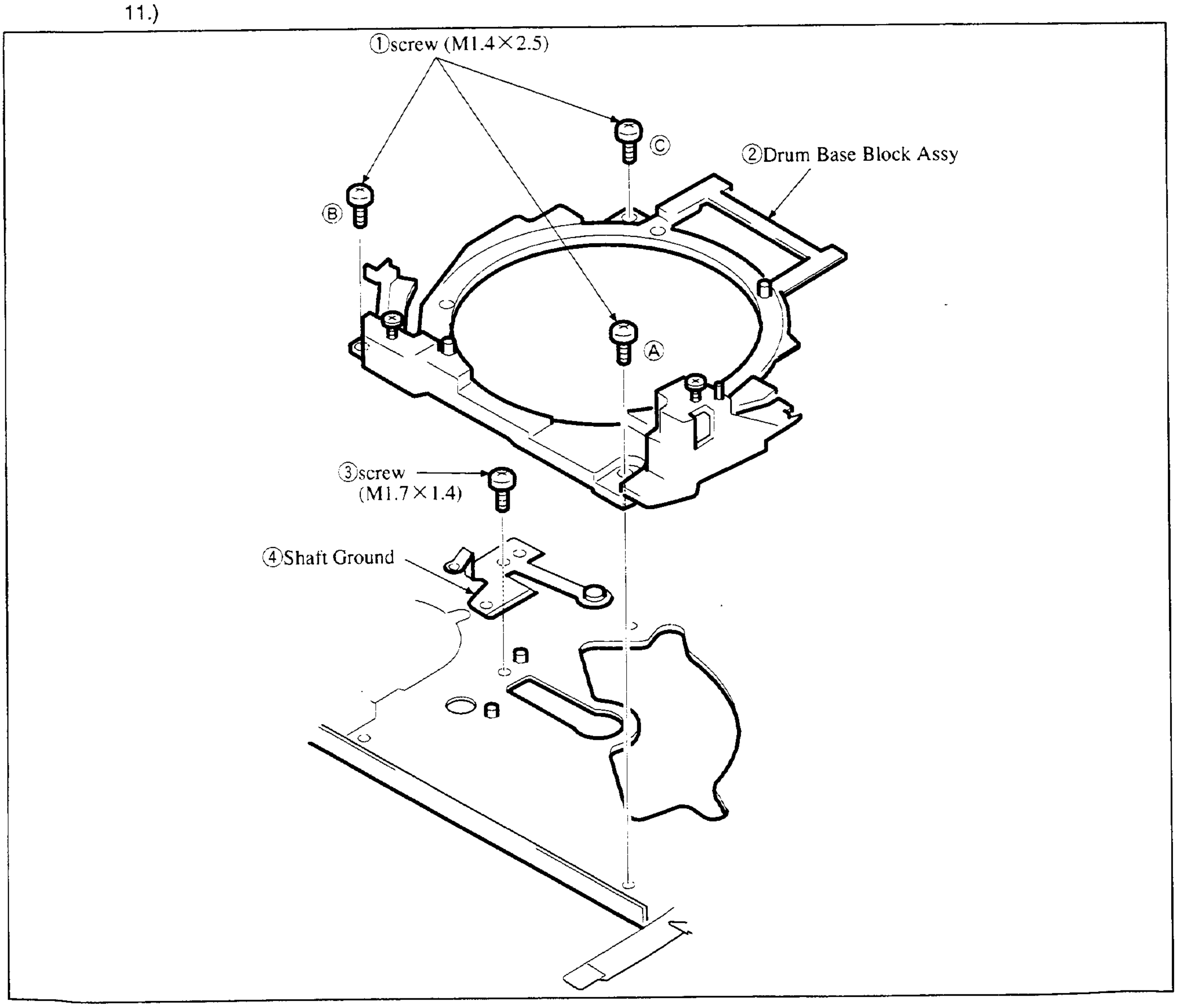


Fig. 7

3-4. Gooseneck Retainer, Gooseneck Gear Assy (Refer to Fig. 8)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the LED ① from the LED holder of the Gooseneck Retainer ③.
   (Turn the flexible board 90° outside and remove it upward.)
3) Remove the three screws (M 1.4×2.5) ② and remove the Gooseneck Retainer ③.
4) Remove the stop washer ④ and remove the Gooseneck Gear Assy ⑤.

2. Precautions During Re-Assembly

1) When attaching the Gooseneck Retainer ③, take care that the Gooseneck Retainer ③ does not collide with the tension regulator band. (The tension regulator band must be located inside.)
2) Hook the T-side claw on the guide.

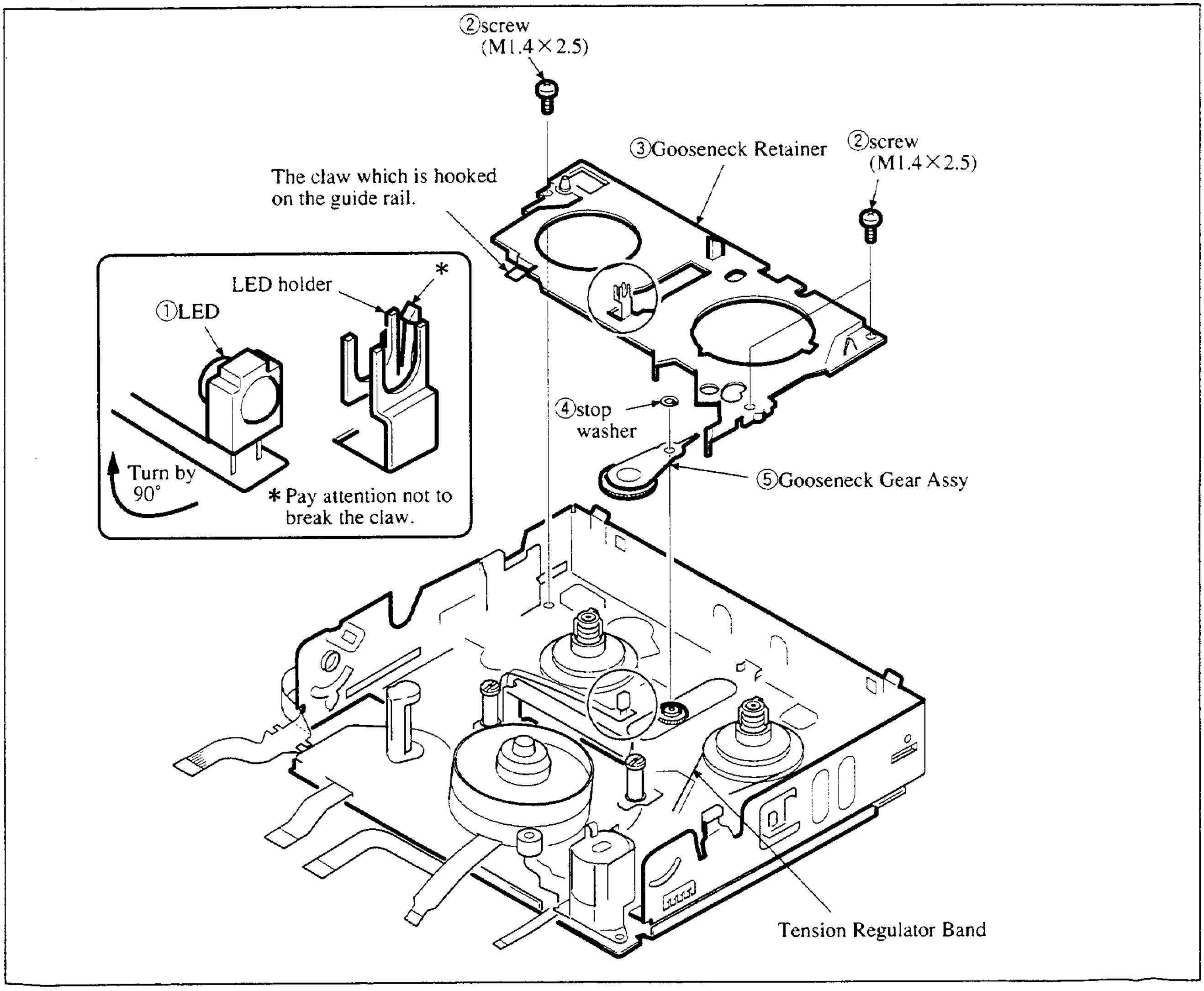

②screw
(M1.4×2.5)
③Gooseneck Retainer
②screw
(M1.4×2.5)
The claw which is hooked on the guide rail.
LED holder
*
①LED
Turn by 90°
* Pay attention not to break the claw.
④stop washer
⑤Gooseneck Gear Assy
Tension Regulator Band

Fig. 8

3-5. LS Chassis Block Assy, Mechanical Chassis Block Assy (Refer to Fig. 9)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
3) Remove the FP-221 flexible board ① from the flexible board holder.
4) Remove the stop ring E1.5 ②.
5) Remove the two screws (M 1.4×2.5) ③ and remove the LS Chassis Block Assy ④ from the Mechanical Chassis Block ⑤ in the direction of the arrow Ⓐ.

Note: The Tension Regulator Plate (2) can easily fall into the Mechanical Chassis Block Assy. Take care not to drop it.

2. Precautions During Re-Assembly

1) Before attaching the LS Chassis Block Assy, confirm that the respective phase-determining holes have been adjusted for correct phase. Also confirm that the specified locations of the Mechanical Chassis Block Assy and the LS Chassis Block Assy are coated with grease SG-055G (Ref. No. J-13). (Refer to Fig. a)
2) When attaching the LS Chassis Block Assy, insert the LS Cam Plate (on the LS chassis side) into the dowel (on the mechanical chassis side). Also insert the TG1 Cam Axis (on the LS chassis side) into the Tension Regulator Plate (2) (on the mechanical chassis side).
3) When attaching these block assemblies, attach them while pressing the TG-1 Arm Assy in the direction toward the TG-2 Guide. (Refer to Fig. b)
4) Pay attention that the TG-1 Arm is not floated.

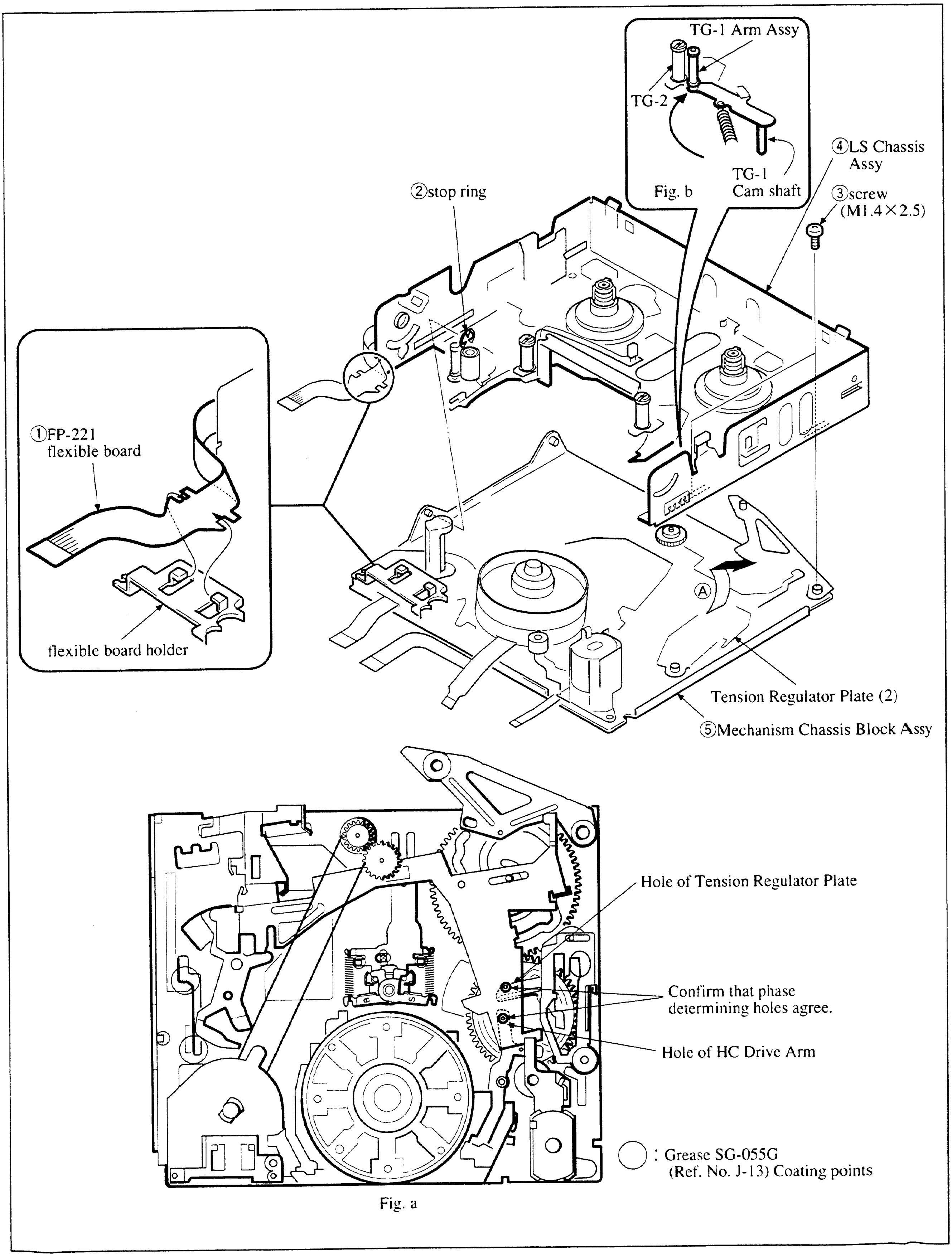

TG-1 Arm Assy
TG-2
TG-1
Cam shaft
Fig. b
②stop ring
④LS Chassis Assy
③screw (M1.4×2.5)
①FP-221 flexible board
flexible board holder
Ⓐ
Tension Regulator Plate (2)
⑤Mechanism Chassis Block Assy
Hole of Tension Regulator Plate
Confirm that phase determining holes agree.
Hole of HC Drive Arm
○ : Grease SG-055G (Ref. No. J-13) Coating points
Fig. a

Fig. 9

- **PARTS CONSTITUTING THE LS CHASSIS.**

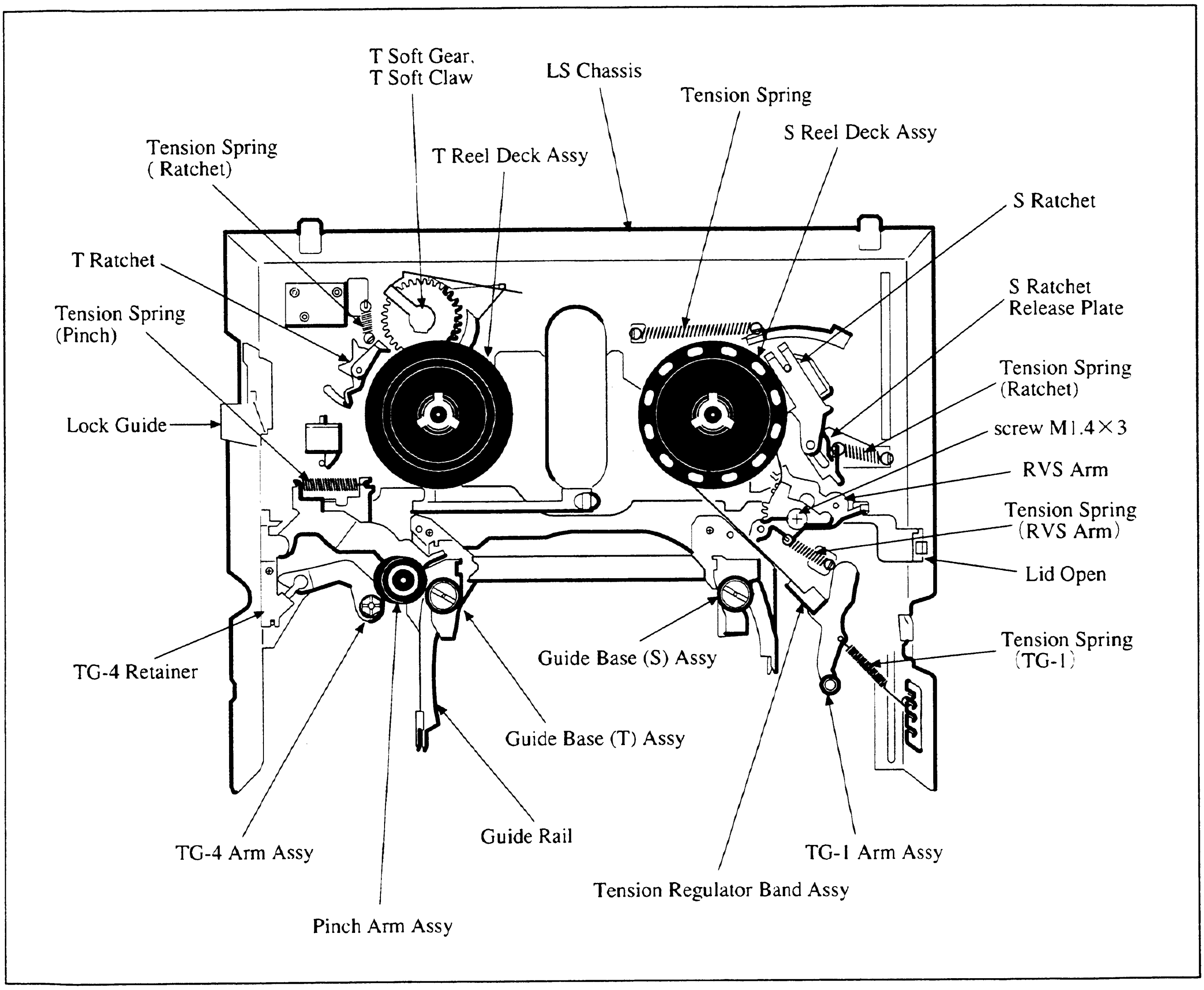

T Soft Gear,
T Soft Claw
LS Chassis
Tension Spring
S Reel Deck Assy
Tension Spring
(Ratchet)
T Reel Deck Assy
S Ratchet
T Ratchet
S Ratchet
Release Plate
Tension Spring
(Pinch)
Tension Spring
(Ratchet)
Lock Guide
screw M1.4×3
RVS Arm
Tension Spring
(RVS Arm)
Lid Open
Tension Spring
(TG-1)
TG-4 Retainer
Guide Base (S) Assy
Guide Base (T) Assy
Guide Rail
TG-4 Arm Assy
TG-1 Arm Assy
Tension Regulator Band Assy
Pinch Arm Assy

Fig. 10

3-6. T Reel Table Assy, T Ratchet, T Soft Gear Block Assy (Refer to Fig. 11)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
3) Remove the claw of the T Reel Deck Assy ① from the chassis and remove the T Reel Deck Assy from its shaft.
4) Remove the Tension Spring (Ratchet) ② from the LS Chassis and turn the T Ratchet ③ in the direction of the arrow Ⓐ and remove it.
5) Turn the T Soft Gear Block Assy ④ in the direction of the arrow Ⓑ and remove it.

2. Precautions During Re-Assembly

1) Confirm that the protrusions of both the T Soft Gear Block Assy and T Ratchet are securely locked to the LS Chassis.
2) Be careful not to deform the claw.

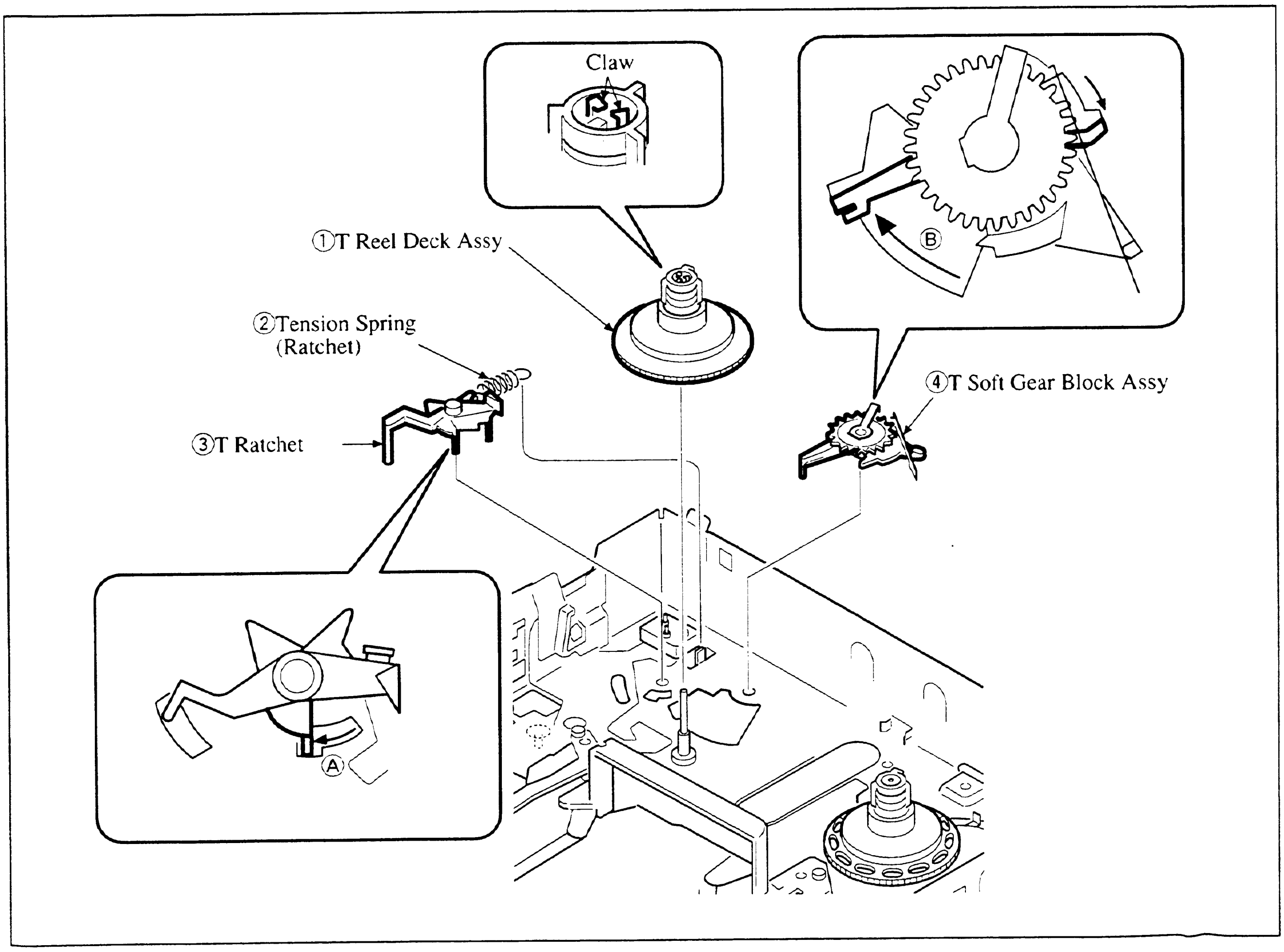


Fig. 11

3-7. Tension Regulator Band Assy, TG1 Arm Assy, S Reel Table Assy, S Ratchet, S Ratchet Release Plate, RVS Arm (Refer to Fig. 12)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
3) Remove the Tension Spring (TG1) ① from the LS Chassis.
4) Remove the screw (M 1.4×3) ② and remove the Tension Adjustment Block of the Tension Regulator Band Assy ④ form RVS Arm.
5) Release the S Ratchet ⑥ in the direction of the arrow Ⓐ and remove the Tension Regulator Band (while taking care not to bend the band) from the S Reel.
6) Remove the TG1 Arm Assy ③ from the LS Chassis, then remove the claw of the Tension Regulator Band Assy ④. (Refer to Fig. a)
7) Remove the claw of the S Reel Deck Assy ⑤ from the chassis and remove the S Reel Deck Assy from its shaft.
8) Remove the S Ratchet ⑥. (Because it is press-fitted, insert tip of screwdriver into the center of rotation and remove it.
9) Remove the Tension Spring (ratchet) ⑦ from the LS Chassis and remove the S Ratchet Release Plate ⑧.
10) Remove the Tension Spring ⑨ from the LS Chassis and remove the RVS Arm ⑩ by turning it..

2. Precautions During Re-Assembly

1) Confirm that the dowel of the S Ratchet Release Plate is inserted into the groove of the S ratchet and confirm that the center of the ratchet is press-fitted into bottom of the shaft. (It can be used again.)
2) When attaching the Tension Regulator Band Assy, take care not to bend it.
3) Pay attention that oil or grease is not spit on the surface of the Tension Regulated Band. (Pay attention also not to touch it with hand directly.)
4) Confirm that the tension regulator band is correctly inserted into the groove of the S Reel Deck Assy ⑤. (Refer to Fig. b)
5) When securing the Tension Adjustment Block using the screw, press it toward the position which gives the least tension, then tighten the fixing screw.
6) Before attaching the TG1 Arm Assy, coat the LS Chassis TG1 boss with oil (1/2 drop).
7) Do not touch the tape guide of the TG1 Arm Assy with bare hands.
8) Confirm that the claw of the S Reel Deck Assy is not deformed.

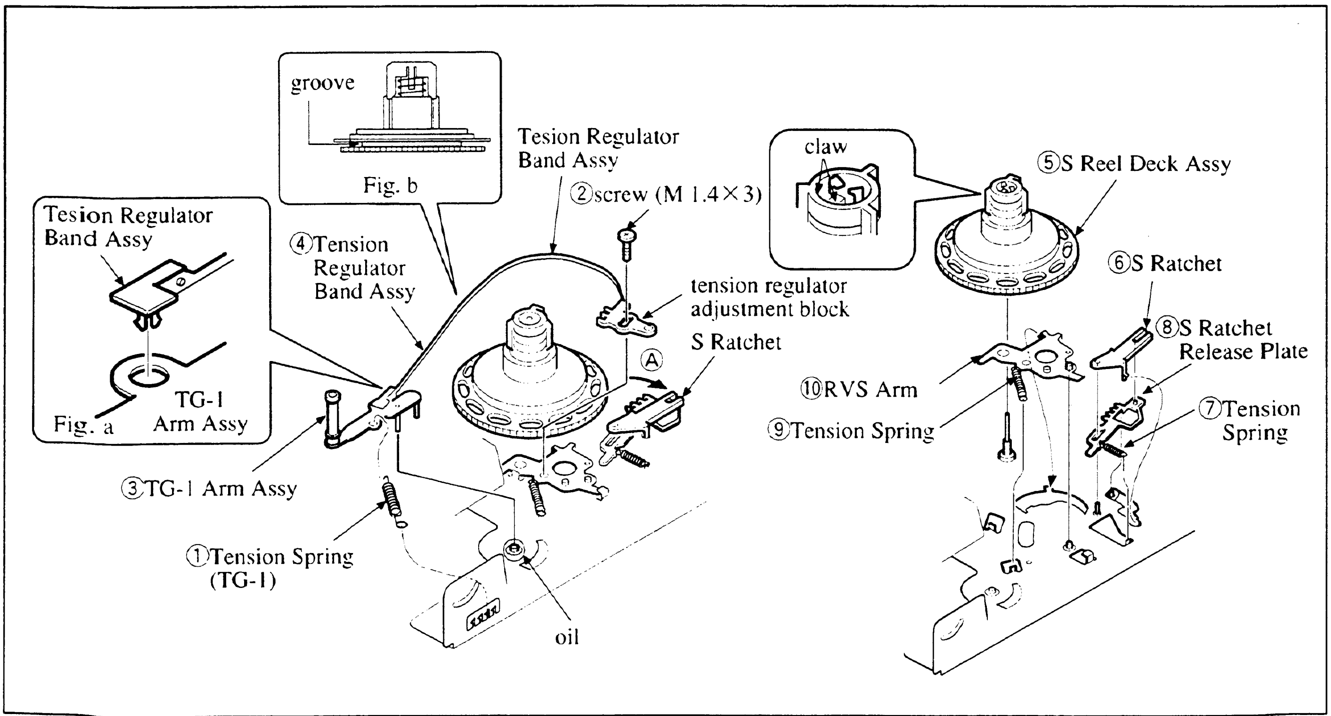

groove
Fig. b
Tesion Regulator Band Assy
②screw (M 1.4×3)
claw
⑤S Reel Deck Assy
Tesion Regulator Band Assy
TG-1 Arm Assy
Fig. a
④Tension Regulator Band Assy
tension regulator adjustment block
S Ratchet
Ⓐ
⑥S Ratchet
⑧S Ratchet Release Plate
⑩RVS Arm
⑨Tension Spring
⑦Tension Spring
③TG-1 Arm Assy
①Tension Spring (TG-1)
oil

Fig. 12

3-8. Pinch Arm Assy, TG4 Arm Block Assy (Refer to Fig. 13)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
3) Remove the LS Chassis Block Assy referring to section 3-5.
4) Remove the Torsion Spring (pinch) ① from an end of Pinch Arm and hook it on the cut-out Ⓐ of the LS Chassis.
5) Remove the screw (M 1.4×2.5) ② and remove the TG4 Retainer ③.
6) Remove the TG4 Arm Block Assy ④ and remove the Torsion Spring ⑤ while paying attention to the Torsion Spring ⑤.
7) Remove the Pinch Arm Assy ⑥. (Caution: The Pinch Press Roller is easy to drop. Pay attention not to drop it.)
8) Remove the Torsion Spring (pinch) ① from the cut-out of the LS Chassis in the order of Ⓐ then Ⓑ.

2. Precautions During Re-Assembly

1) Before attaching these parts, coat the LS chassis pinch arm boss and TG4 arm boss with grease SG-055G (Ref. No. J-13).
2) Do not touch the tape guide of the TG4 Arm Block Assy and roller of the Pinch Arm Assy with bare hand.
3) After coating the Pinch Press Shaft of the Pinch Arm Assy ③ with grease SG-055G (Ref. No. J-13), attach the Pinch Press Roller.

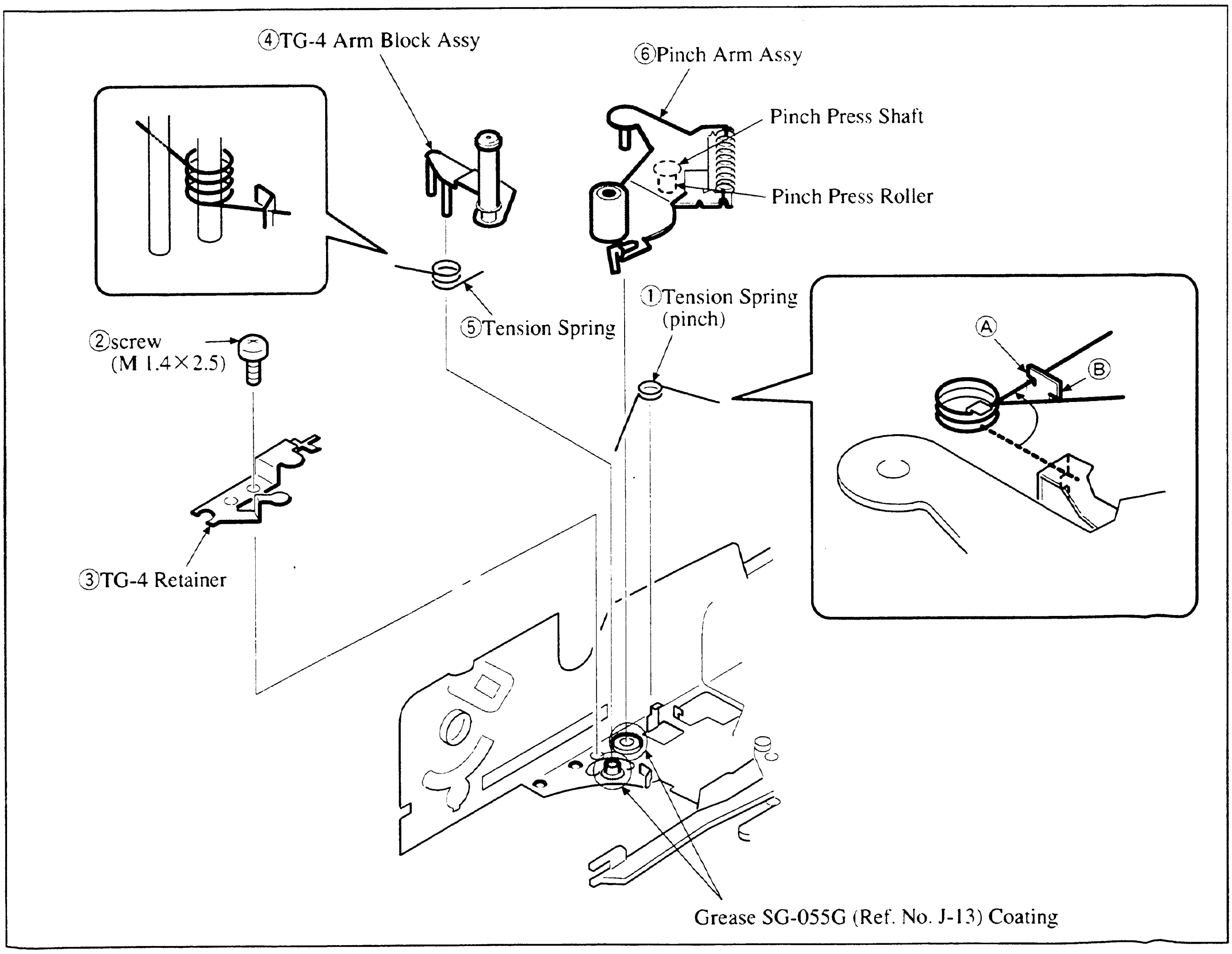

④TG-4 Arm Block Assy
⑥Pinch Arm Assy
Pinch Press Shaft
Pinch Press Roller
①Tension Spring (pinch)
⑤Tension Spring
②screw (M 1.4×2.5)
③TG-4 Retainer
Ⓐ
Ⓑ
Grease SG-055G (Ref. No. J-13) Coating

Fig. 13

3-9. LS Cam Plate, LS Guide Cover, Lid Opener, EJ Arm, Lock Guide
(Refer to Fig. 14)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
3) Remove the LS Chassis Block Assy referring to section 3-5.
4) Remove the two screws (M 1.4×2.5) ① and remove the the LS Cam Plate ②.
   In this state, write a mark on the screw ① and on the LS Chassis indicating the position of the LS Cam Plate which helps during re-assembly.
5) Remove the LS Guide Cover ③.
6) Remove the Lock Guide ④ in the upward direction. (Refer to Fig. a)
7) Remove the Lid Open ⑤ in the direction of the arrow Ⓒ while pushing Ⓑ portion .
8) Remove the EJ Arm ⑥ . (The EJ Arm ⑥ is press-fitted. If the EJ Arm ⑥ is not damaged, it is not necessary to replace.)

2. Precautions During Re-Assembly

1) After the captioned parts are attached, confirm that the respective claws and dowels are engaged completely.
2) If the EJ Arm ⑥ is removed, be sure to replace it with the new replacement EJ Arm.
3) If any mark is not written when removing the LS Cam Plate ②, adjust and attack it as shown in Fig. b.

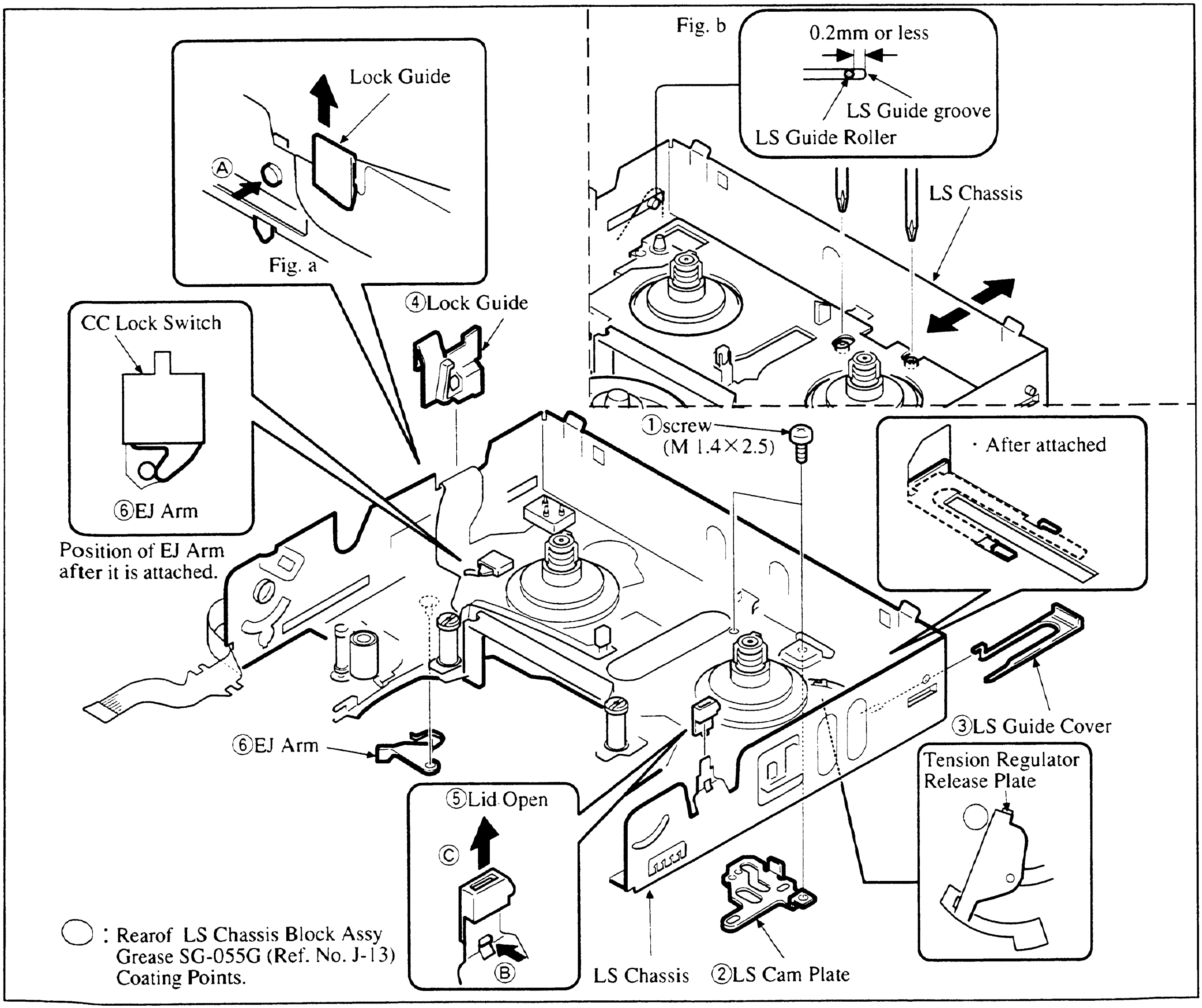


Fig. b
0.2mm or less
LS Guide groove
LS Guide Roller
LS Chassis
Lock Guide
Ⓐ
Fig. a
④Lock Guide
CC Lock Switch
⑥EJ Arm
Position of EJ Arm after it is attached.
①screw (M 1.4×2.5)
· After attached
⑥EJ Arm
③LS Guide Cover
Tension Regulator Release Plate
⑤Lid Open
Ⓒ
Ⓑ
○ : Rearof LS Chassis Block Assy Grease SG-055G (Ref. No. J-13) Coating Points.
LS Chassis
②LS Cam Plate

Fig. 14

3-10. Guide Base (S) and (T) Block Assemblies, Guide Rail (Refer to Fig. 15)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
3) Remove the LS Chassis Block Assy referring to section 3-5.
4) While pushing the GB Stoppers (S) and (T) in the direction of arrow Ⓐ, press the guide arm in the direction of the arrow Ⓑ, and turn the Guide Base (S) and (T) Block Assemblies : ① and ② in the direction of the arrow Ⓒ respectively, and remove them.
5) Remove the two screws (M 1.4×2.5) ③ and remove the the Guide Rail Assy ④.
6) Remove the Stopper (S) and (T) : ⑤ and ⑥, then remove the GB Stopper S and T: ⑦ and ⑧.

2. Precautions During Re-Assembly

1) Pay attention not to deform the Guide Rail.
2) Do not touch the tape guide of the Guide Base (S) and (T) Block Assemblies with bare hand.
3) Pay attention not to deform the Stoppers (S) and (T).
4) When attaching the Guide Base (S) and (T) Blocks to the Guide Rail, move back the Guide Bases until the GB Stoppers (S) and (T) are locked. ("Click" sounds.)
5) After the captioned parts are attached, perform section "4. TAPE PATH ADJUSTMENT".

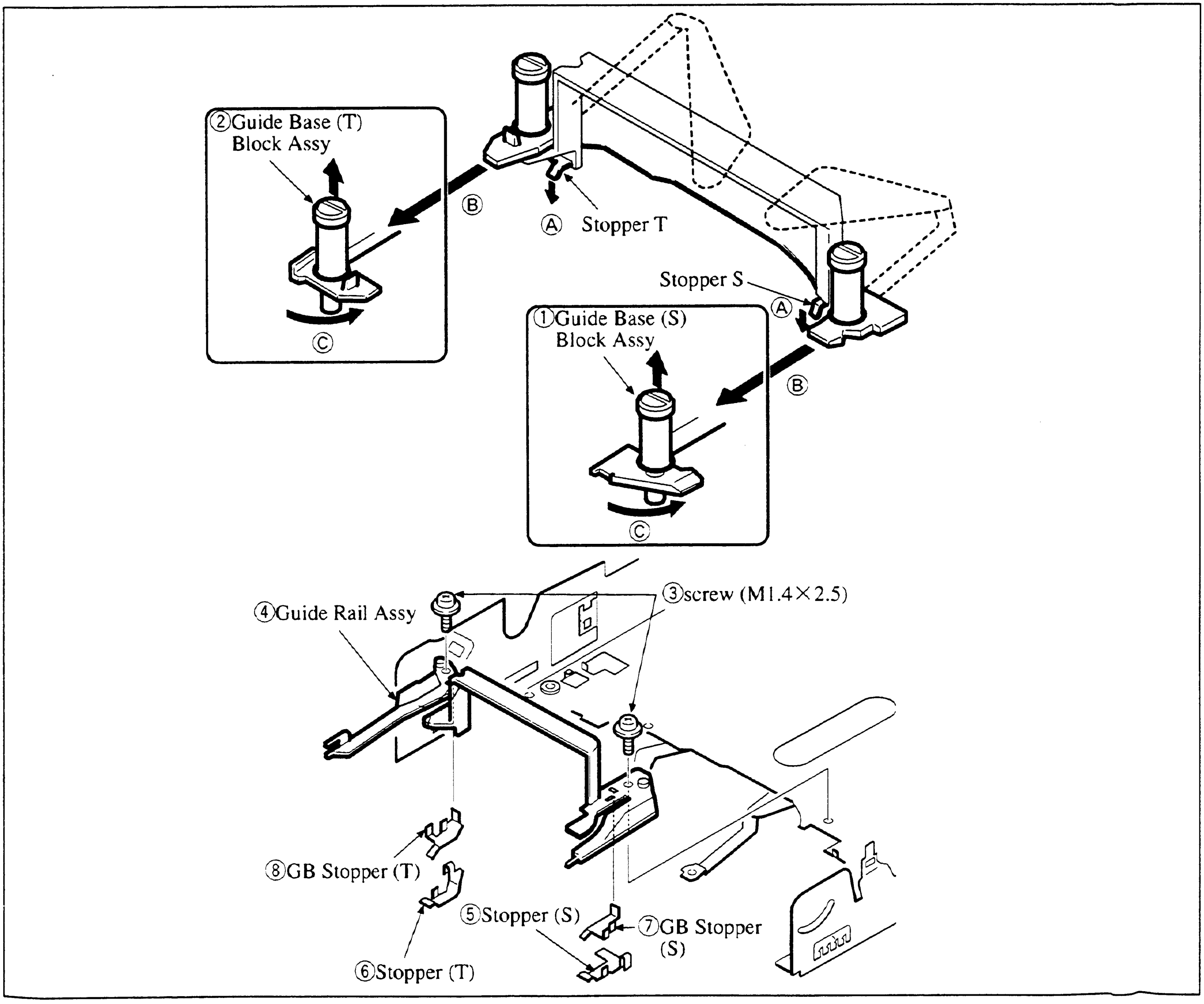

②Guide Base (T)
Block Assy
Ⓒ
Ⓑ
Ⓐ Stopper T
Stopper S
Ⓐ
①Guide Base (S)
Block Assy
Ⓑ
Ⓒ
④Guide Rail Assy
③screw (M1.4×2.5)
⑧GB Stopper (T)
⑤Stopper (S)
⑦GB Stopper
(S)
⑥Stopper (T)

Fig. 15

• PARTS CONSTITUTING THE MECHANISM CHASSIS

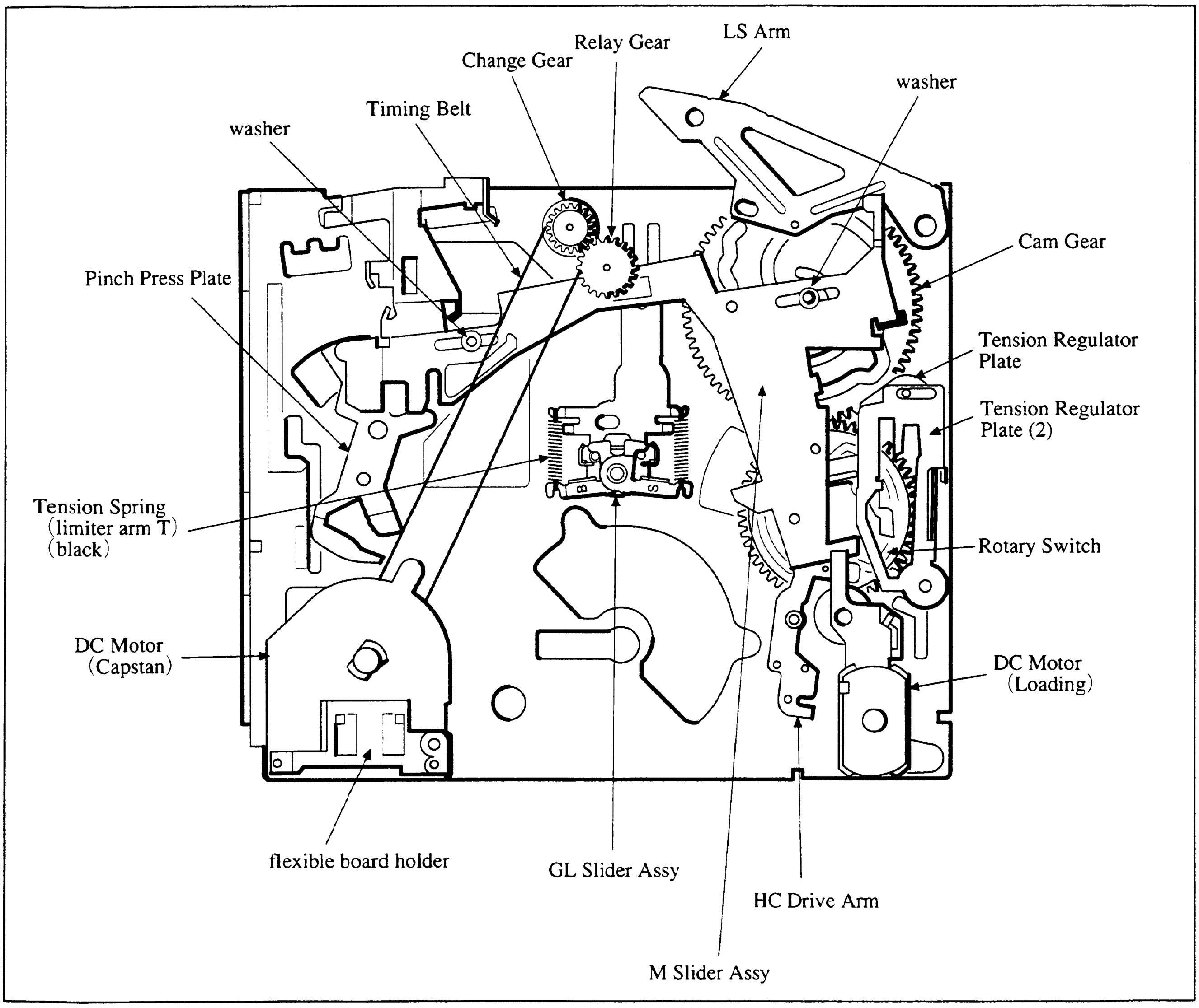

Relay Gear
LS Arm
Change Gear
washer
Timing Belt
washer
Cam Gear
Pinch Press Plate
Tension Regulator Plate
Tension Regulator Plate (2)
Tension Spring (limiter arm T) (black)
Rotary Switch
DC Motor (Capstan)
DC Motor (Loading)
flexible board holder
GL Slider Assy
HC Drive Arm
M Slider Assy

Fig.16

3-11. DC Motor Assy (Loading)
(Refer to Fig. 17)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the HC Roller Block Assy referring to section 3-1.
3) Remove the Drum Assy referring to section 3-2.
4) Remove the Drum Base Block Assy referring to section 3-3.
5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
6) Remove the LS Chassis Block Assy referring to section 3-5.
7) Remove soldering from the Ⓐ portion.
8) Remove the screw (M 1.4×2.5) ① and remove the Motor Holder Block Assy ② from the mechanism chassis along with the claw beneath the Motor Holder Block Assy as shown by the arrow Ⓑ.
9) Remove the Motor Shield ③ in the direction of the arrow Ⓒ (by opening the two ★ star marked points).
10) Release the claw on top of the Motor Holder ⑤ and remove the DC Motor Assy ④ in the direction of the arrow Ⓓ.
11) Remove the Motor Holder Sleeve ⑥, Gear A⑦ and Worm Shaft ⑧ in this order.

2. Precautions During Re-Assembly

1) Before attaching the Gear A ⑥, coat the Retainer Shaft Ⓔ with grease SG-055G (Ref. No. J-13).
2) After assembling the Motor Holder Block Assy, coat the six locations shown by Fig. a with grease SG-055G (Ref. No. J-13).
3) The HC Drive Arm is easy to drop. Confirm that it is attacked referring to Fig. 19.

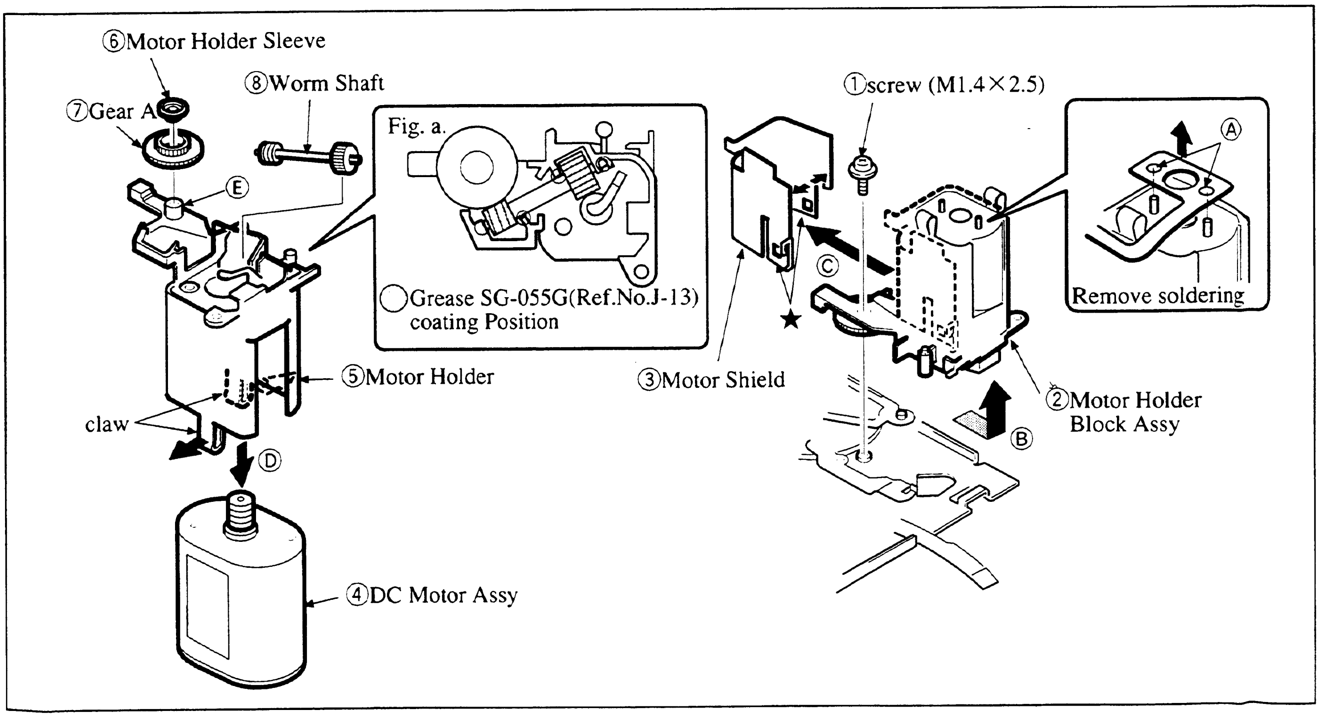

⑥Motor Holder Sleeve
⑧Worm Shaft
⑦Gear A
Ⓔ
Fig. a.
○Grease SG-055G(Ref.No.J-13) coating Position
⑤Motor Holder
claw
Ⓓ
④DC Motor Assy
③Motor Shield
Ⓒ
★
①screw (M1.4×2.5)
Ⓐ
Remove soldering
②Motor Holder Block Assy
Ⓑ

Fig. 17

3-12. Tension Regulator Plate 2, Relay Gear, M Slider Assy (Refer to Fig. 18)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the HC Roller Block Assy referring to section 3-1.
3) Remove the Drum Assy referring to section 3-2.
4) Remove the Drum Base Block Assy referring to section 3-3.
5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
6) Remove the LS Chassis Block Assy referring to section 3-5.
7) Remove the DC motor referring to section 3-11.
8) Remove the Tension Regulator Plate 2 ①.
9) Remove the Relay Gear ②.
10) Remove the two washers ③. Remove the M Slider Assy ④. At the point, confirm that the LS Roller ⑤ is not dropped.

2. Precautions During Re-Assembly

1) Before attaching the M Slider Assy ④, coat the LS Roller Shaft Ⓐ on the back of the M Slider Assy, the Pinch Press Plate Shaft Ⓑ and the mechanism chassis M Slider Axis Ⓒ with grease SG-055G (Ref. No. J-13). (Refer to Fig. b)
2) While confirming the phase-determining holes, attach the M Slider Assy ④ while paying attention to the claw.
3) Attach the Tension Regulator Plate 2 ① inside the Tension Regulator Plate. (Refer to the asterisk * Marked portion of Fig. a)
4) Before attaching the Relay Gear ②, coat the mechanism chassis Relay Gear Axis Ⓓ with grease SG-055G (Ref. No. J-13).

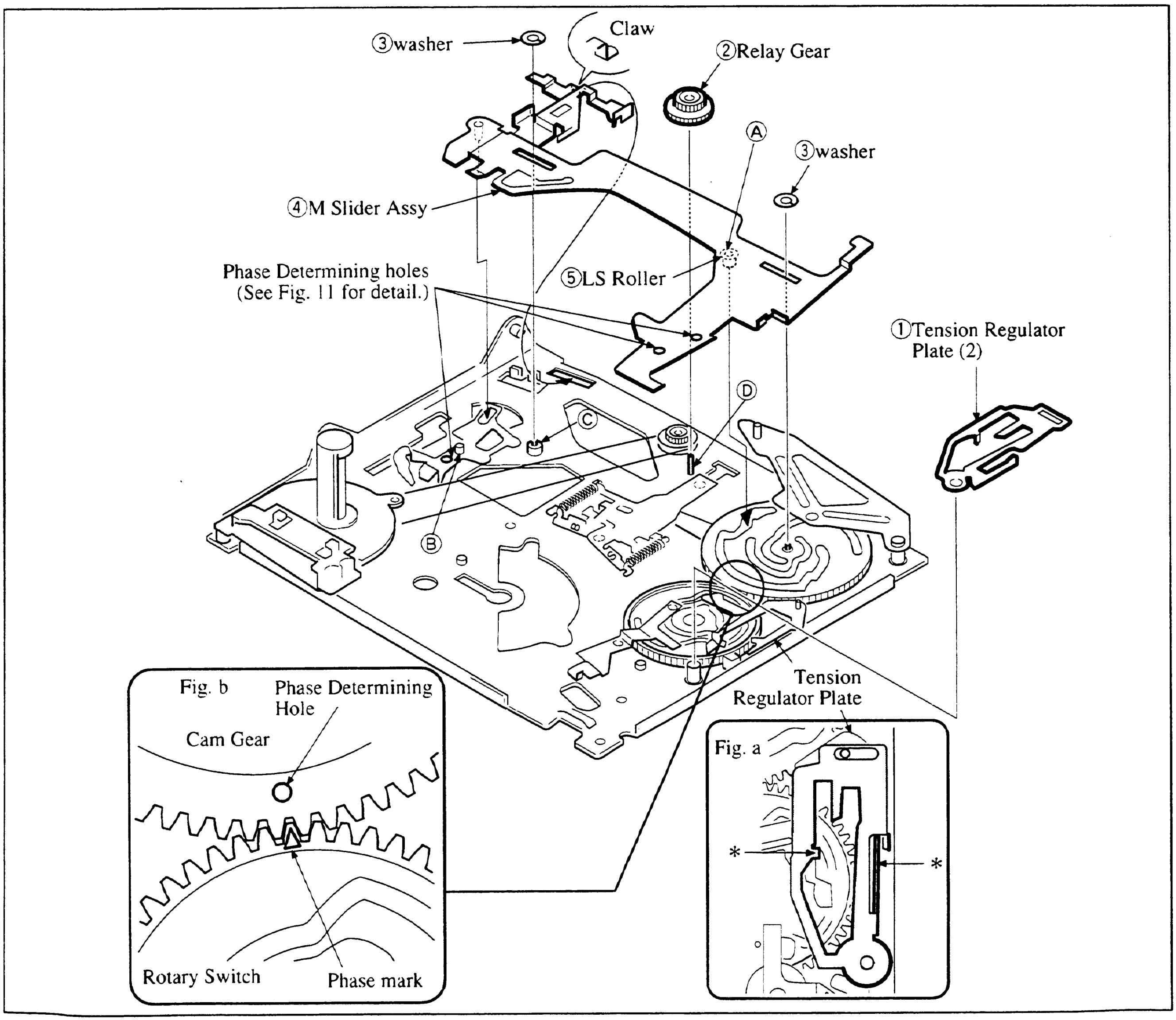

③washer
Claw
②Relay Gear
Ⓐ
③washer
④M Slider Assy
Phase Determining holes
(See Fig. 11 for detail.)
⑤LS Roller
①Tension Regulator
Plate (2)
Ⓓ
Ⓒ
Ⓑ
Tension
Regulator Plate
Fig. b
Phase Determining
Hole
Cam Gear
Rotary Switch
Phase mark
Fig. a
*
*

Fig. 18

3-13. LS Arm, HC Drive Arm, Pinch Press Plate, Tension Regulator Plate (Refer to Fig. 19)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the HC Roller Block Assy referring to section 3-1.
3) Remove the Drum Assy referring to section 3-2.
4) Remove the Drum Base Block Assy referring to section 3-3.
5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
6) Remove the LS Chassis Block Assy referring to section 3-5.
7) Remove the DC Motor Assy referring to section 3-11.
8) Remove the Tension Regulator Plate 2, Relay Gear and M Slider Assy referring to section 3-12.
9) Remove the LS Arm ①. At this point, confirm that the LS Roller ② is not dropped.
10) Remove the HC Drive Arm ③, Pinch Press Plate ④ and Tension Regulator Plate ⑤.

2. Precautions During Re-Assembly

1) Before attaching the captioned parts, confirm that phases of the Cam Gear and the Rotary Switch agree. (See Fig. a.)
2) Insert the dowel of the Tension Regulator Plate ⑤ into the groove outside the rotary switch.
3) Before attaching the Pinch Press Plate ④, check for grease on the mechanism chassis Pinch Press Plate Shaft Ⓐ. If grease cannot be found, coat it with grease SG-055G (Ref. No. J-13). After attaching the Pinch Press Plate ④, align its phase hole until it agrees with the phase-determining hole on the mechanism chassis.
4) Insert the dowel of the HC Drive Arm ③ into the groove inside the rotary switch.
5) Before attaching the LS Arm ①, coat the LS roller shaft of the LS Arm ① with grease SG-055G (Ref. No. J-13).

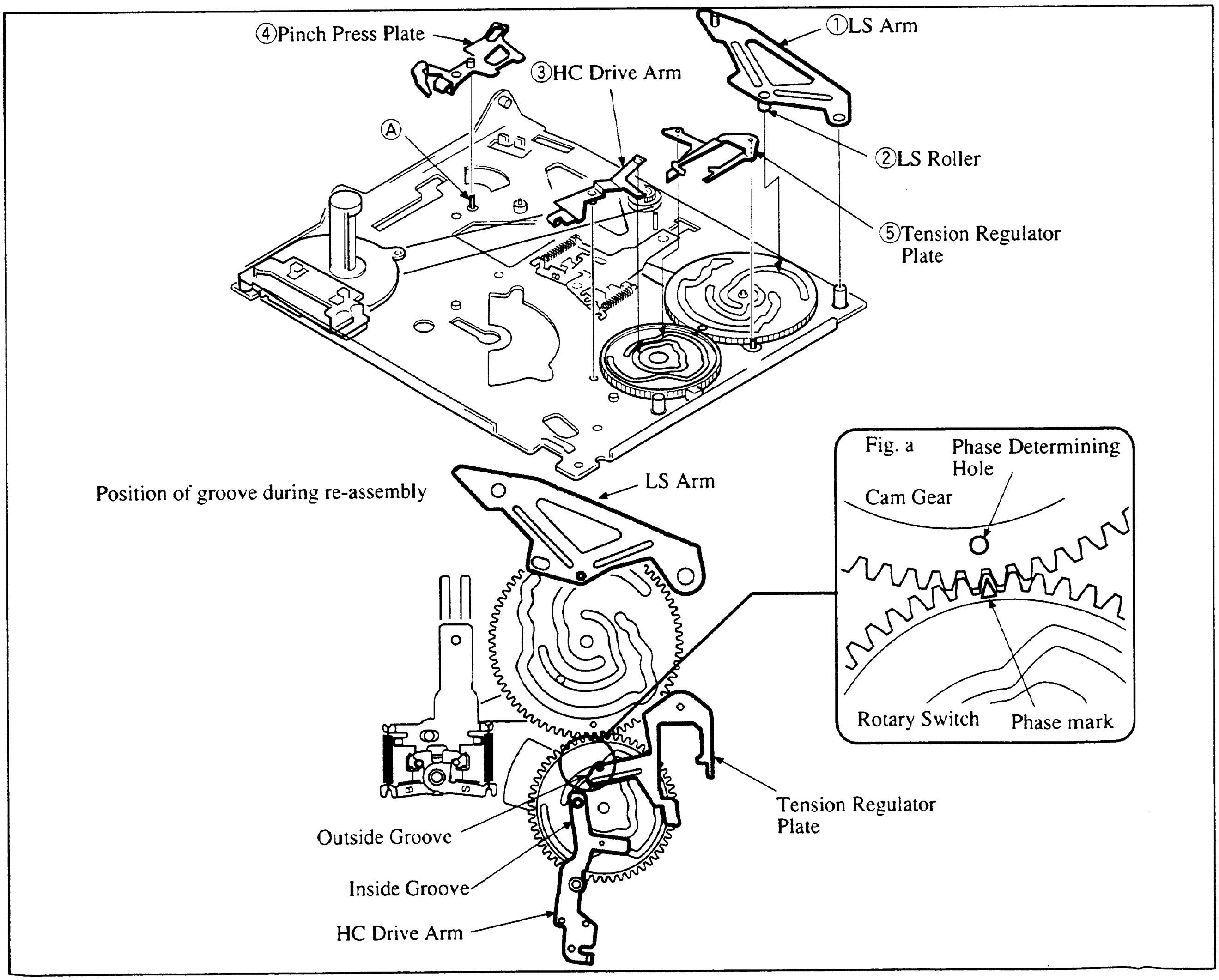

④Pinch Press Plate
③HC Drive Arm
①LS Arm
Ⓐ
②LS Roller
⑤Tension Regulator Plate
Position of groove during re-assembly
LS Arm
Fig. a
Phase Determining Hole
Cam Gear
Rotary Switch
Phase mark
Tension Regulator Plate
Outside Groove
Inside Groove
HC Drive Arm

Fig. 19

3-14. Cam Gear (Refer to Fig. 20)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the HC Roller Block Assy referring to section 3-1.
3) Remove the Drum Assy referring to section 3-2.
4) Remove the Drum Base Block Assy referring to section 3-3.
5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
6) Remove the LS Chassis Block Assy referring to section 3-5.
7) Remove the DC Motor Assy referring to section 3-11.
8) Remove the Tension Regulator Plate 2, Relay Gear and M Slider Assy referring to section 3-12.
9) Remove the LS Arm and Tension Regulator Plate referring to section 3-13.
10) Remove the Cam Gear ①.

2. Precautions During Re-Assembly

1) Before attaching the Cam Gear ①, align the phase mark on the rotary switch until it agrees with the phase-determining hole Ⓐ on the mechanism chassis, and align the GL Arm's phase mark Ⓑ until it agrees with the phase-determining hole Ⓐ on the mechanism chassis. Coat the mechanism's chassis Gear Axis Ⓐ with grease SG-055G (Ref. No. J-13).
2) Attach the Cam Gear ① so that its phase hole agrees with the phase mark on the rotary switch. (Refer to Fig. a)
3) After the Cam Gear ① is attached, coat the GL Arm Axis Block of the cam gear with grease SG-055G (Ref. No. J-13).

Reference : The phase marks of the Cam Gear and Rotary Switch can also be checked from the rear side of mechanism chassis. It means that the phase can be confirmed after mechanism deck is fully re-assembled.

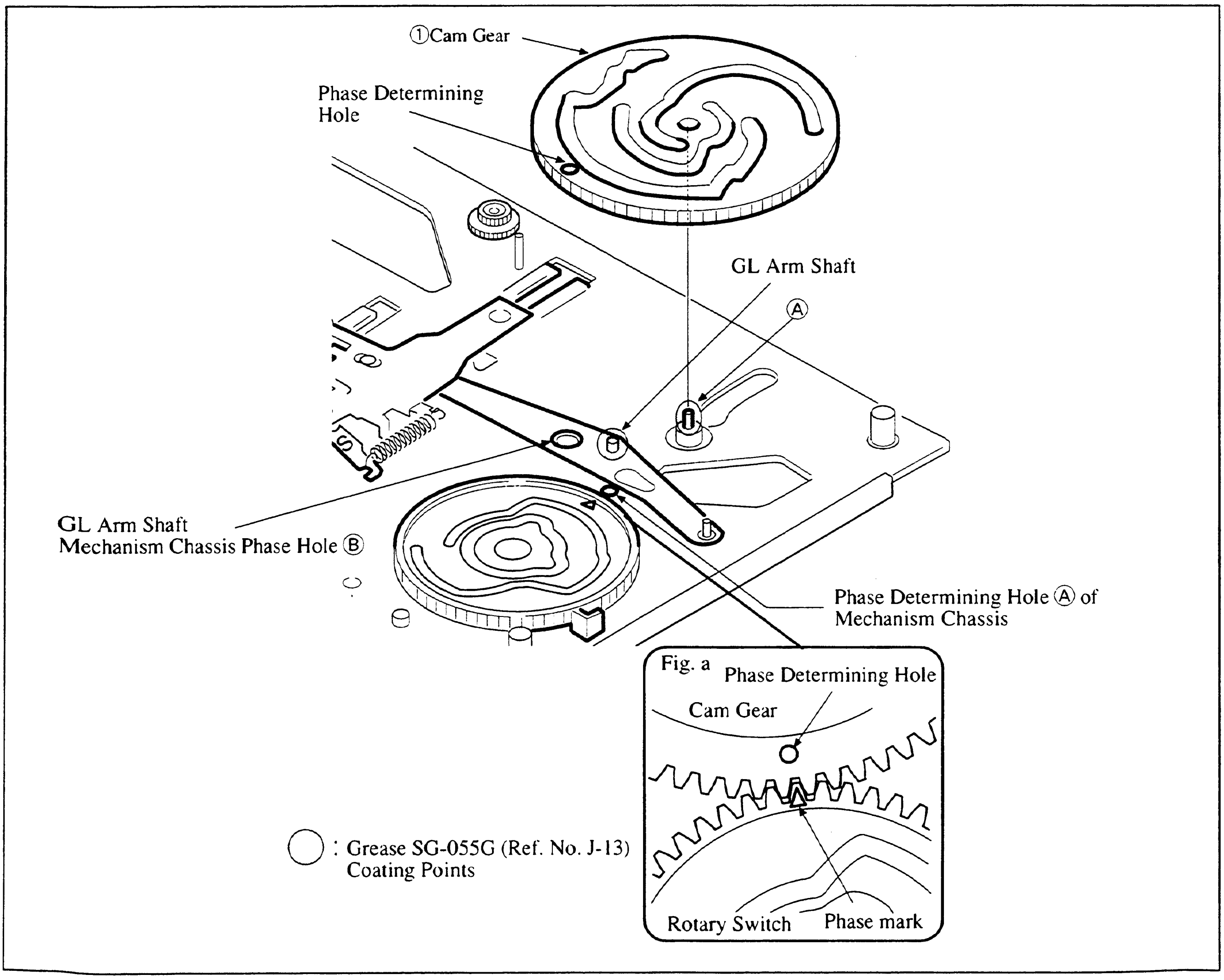

①Cam Gear
Phase Determining Hole
GL Arm Shaft
Ⓐ
Ⓑ
GL Arm Shaft
Mechanism Chassis Phase Hole Ⓑ
Phase Determining Hole Ⓐ of Mechanism Chassis
Fig. a
Phase Determining Hole
Cam Gear
Rotary Switch
Phase mark
○ : Grease SG-055G (Ref. No. J-13) Coating Points

Fig. 20

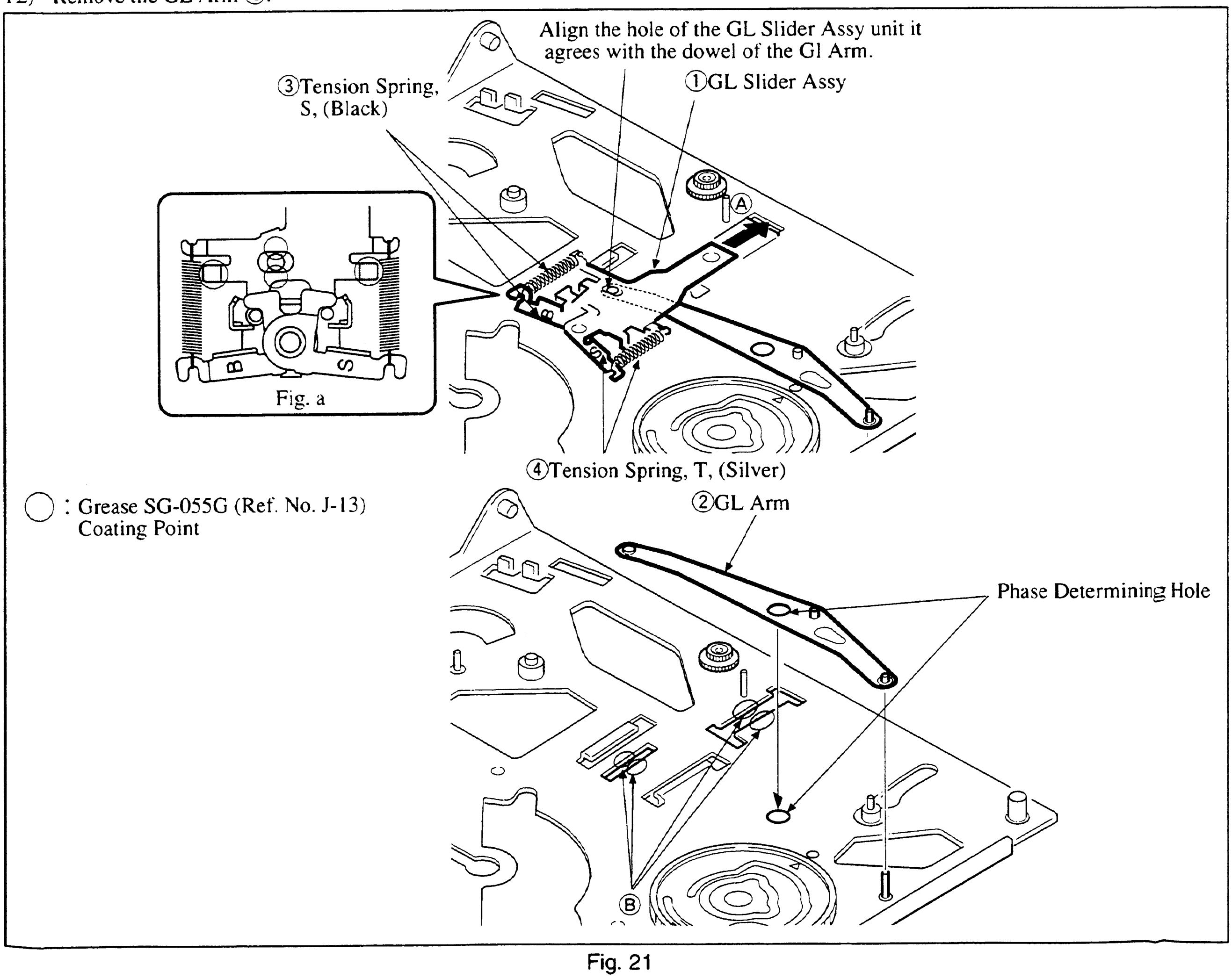
3-15. GL Slider Assy, GL Arm (Refer to Fig. 21)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the HC Roller Block Assy referring to section 3-1.
3) Remove the Drum Assy referring to section 3-2.
4) Remove the Drum Base Block Assy referring to section 3-3.
5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
6) Remove the LS Chassis Block Assy referring to section 3-5.
7) Remove the DC Motor Assy referring to section 3-11.
8) Remove the Tension Regulator Plate 2, Relay Gear and M Slider Assy referring to section 3-12.
9) Remove the LS Arm and Tension Regulator Plate referring to section 3-13.
10) Remove the Cam Gear referring to section 3-14.
11) Remove the GL Slider Assy ① by sliding it in the direction of the arrow Ⓐ.
12) Remove the GL Arm ②.

2. Precautions During Re-Assembly

1) The Tension Spring T③ is colored black and the Tension Spring S④ is colored silver.
2) Coat the position shown in Fig. a of the GL Slider Assy ① with grease SG-055G (Ref. No. J-13).
3) Coat the four points Ⓑ where GL slider is attached on the mechanism chassis with grease SG-055G (Ref. No. J-13).
4) After attaching the GL Arm ② and the GL Slider Assy, align the GL arm phase hole until it agrees with the phase-determining hole on the mechanism chassis.



Align the hole of the GL Slider Assy unit it agrees with the dowel of the Gl Arm.
③Tension Spring, S, (Black)
①GL Slider Assy
Ⓐ
Fig. a
B
S
④Tension Spring, T, (Silver)
○ : Grease SG-055G (Ref. No. J-13) Coating Point
②GL Arm
Phase Determining Hole
Ⓑ

Fig. 21

3-16. Rotary Switch (Refer to Fig. 22)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the HC Roller Block Assy referring to section 3-1.
3) Remove the Drum Assy referring to section 3-2.
4) Remove the Drum Base Block Assy referring to section 3-3.
5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
6) Remove the LS Chassis Block Assy referring to section 3-5.
7) Remove the DC Motor Assy referring to section 3-11.
8) Remove the Tension Regulator Plate 2, Relay Gear and M Slider Assy referring to section 3-12.
9) Remove the LS Arm, Tension Regulator Plate, HC Drive Arm and Pinch Press Plate referring to section 3-13.
10) Remove the Cam Gear referring to section 3-14.
11) Remove soldering the portion Ⓐ on the rear of the Rotary Switch. (Pay attention at this moment that the GL Slider and GL Arm do not drop.)
12) While lifting up the portion Ⓑ about 1 mm (pay attention not to break it), hold the portion Ⓒ and turn it in the direction of the arrow Ⓓ to remove the Rotary Switch.

2. Precautions During Re-Assembly

1) Before attaching the Rotary Switch by soldering on the FP-220 board, insert the portion Ⓑ dowel into the hole on the mechanism chassis. Confirm that the three claws are engaged with the mechanism chassis.

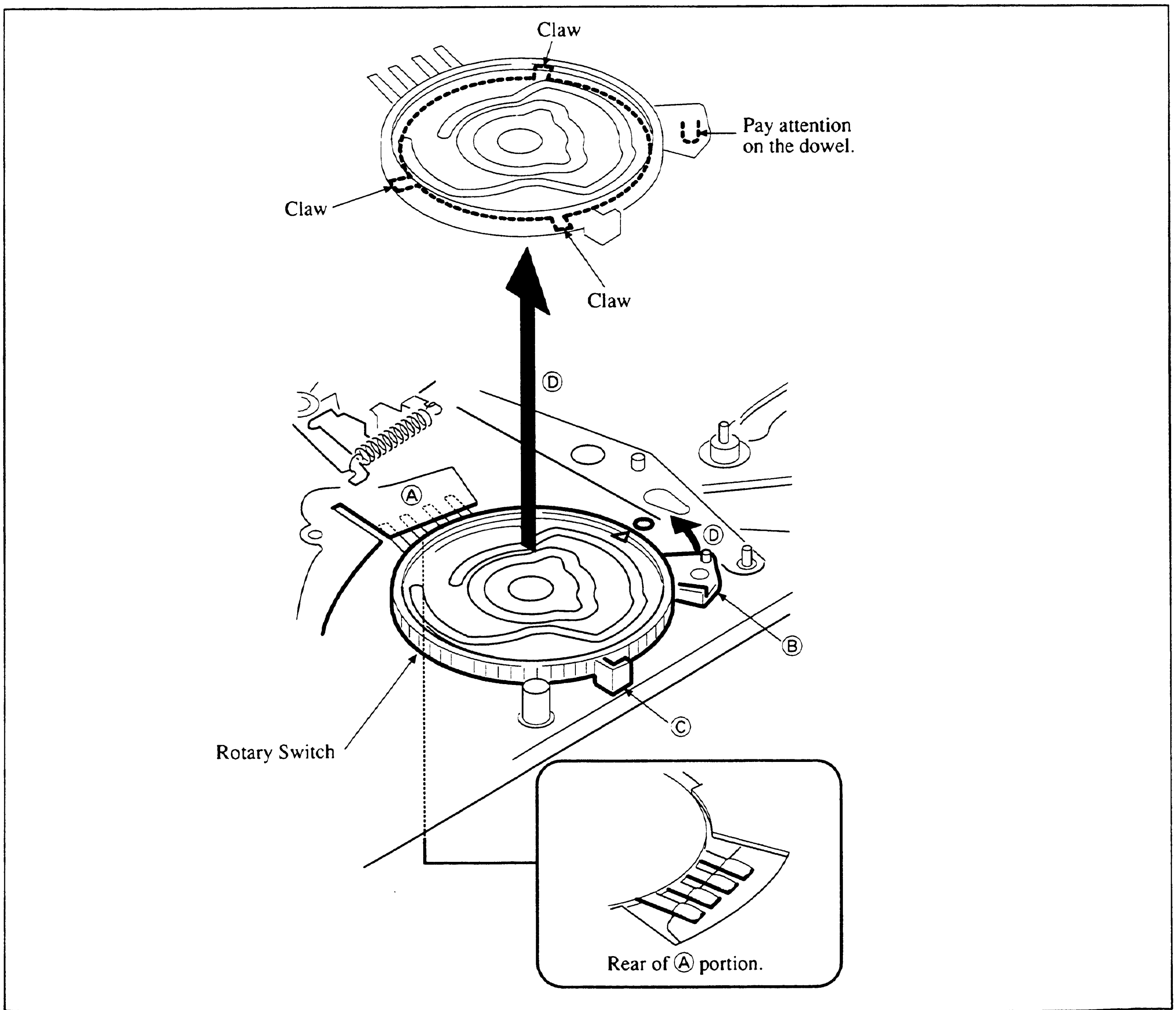


Fig. 22

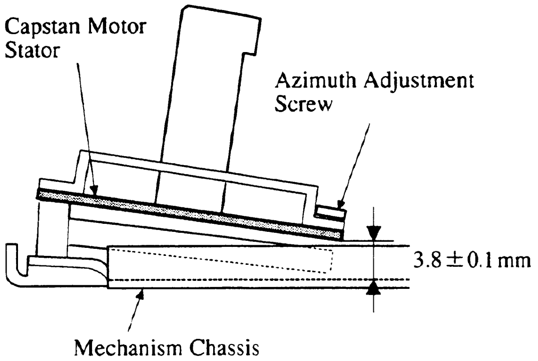
3-17. Capstan Motor (Refer to Fig. 23)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the HC Roller Block Assy referring to section 3-1.
3) Remove the Drum Assy referring to section 3-2.
4) Remove the Drum Base Block Assy referring to section 3-3.
5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
6) Remove the LS Chassis Block Assy referring to section 3-5.
7) Remove the DC Motor Assy referring to section 3-11.
8) Remove the Tension Regulator Plate 2, Relay Gear and M Slider Assy referring to section 3-12.
9) Remove the Pinch Press Plate referring to section 3-13.
10) Remove the screw (M 1.4×6.7) ① and remove the Flexible Board Holder ②.
11) Remove the two screws (M 1.4×6.7) ③ and remove the Capstan Motor ④, Timing Belt ⑤ and Capstan Spacer ⑥.
12) Remove the washer ⑦ and remove the Changer Gear ⑧.

2. Precautions During Re-Assembly

1) Confirm that the timing belt is not twisted.
2) Do not touch the capstan with bare hand.
3) Lubricate the mechanism chassis's Change Gear shaft Ⓐ.
4) After attaching the Capstan Motor, perform the capstan azimuth adjustment.


Capstan Motor Stator
Azimuth Adjustment Screw
3.8±0.1mm
Mechanism Chassis

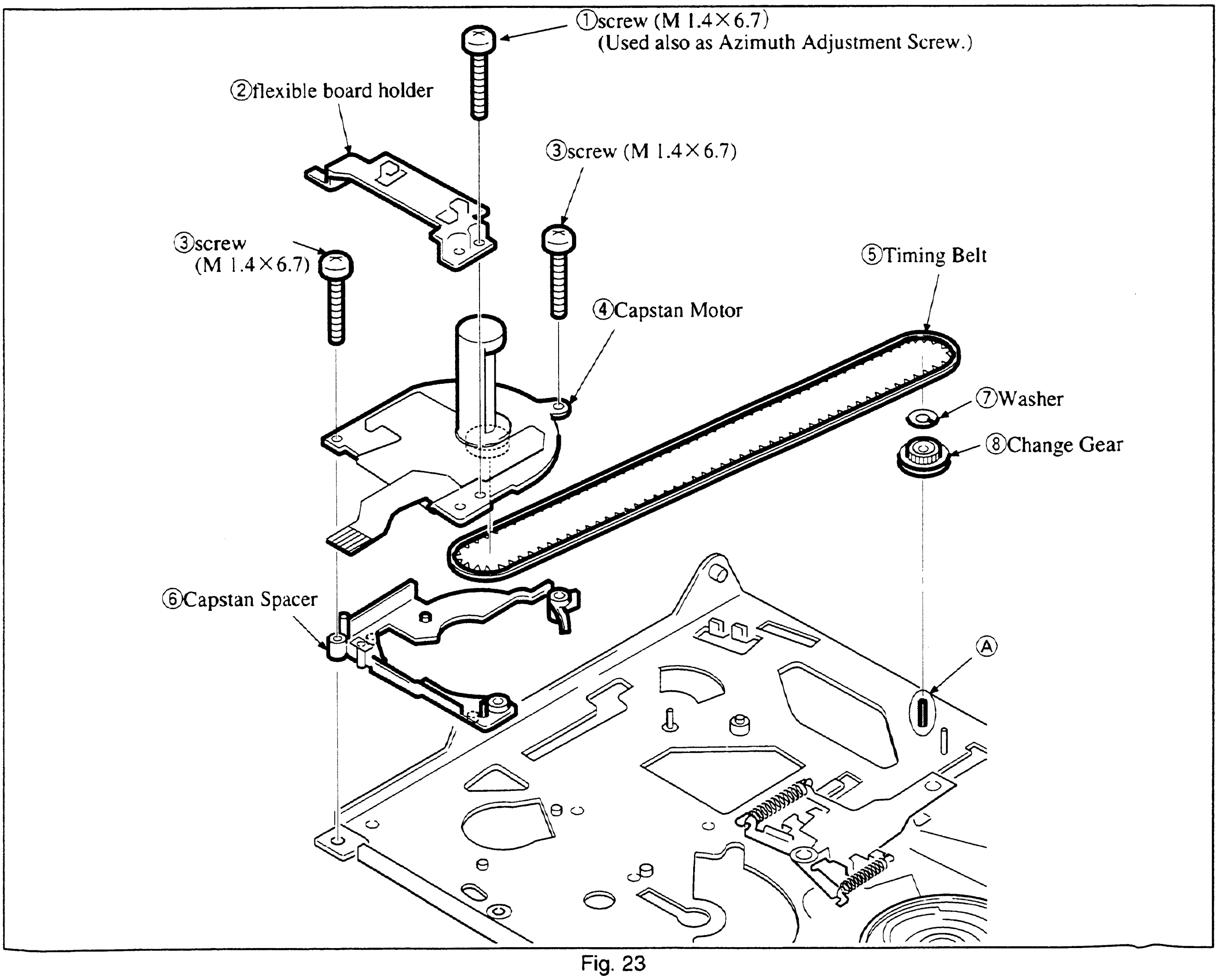

①screw (M 1.4×6.7)
(Used also as Azimuth Adjustment Screw.)
②flexible board holder
③screw (M 1.4×6.7)
③screw
(M 1.4×6.7)
⑤Timing Belt
④Capstan Motor
⑦Washer
⑧Change Gear
⑥Capstan Spacer
Ⓐ

Fig. 23

3-18. Tension Regulator Position Adjustment (Refer to Fig.24)

1. Adjustment Procedure

1) Insert a cassette Tape and run the Tape in PB mode.
2) While tape is running, confirm that the distance between the LS Chassis and TG-1 Guide's top flange is 8.3mm.
3) If not, proceed to step 4).
4) Loosen the screw ① (M 1.4×3).
5) If the TG-1 Guide is located inside the specified position, move position of the Tension Regulator Band Assy using the FWD B.T. Adjustment tool screwdriver (Ref. No. J-9) as shown in the direction of the arrow Ⓐ. If it is located outside, move it in the direction of the arrow Ⓑ.
6) Tighten the screw ① (M 1.4×3).

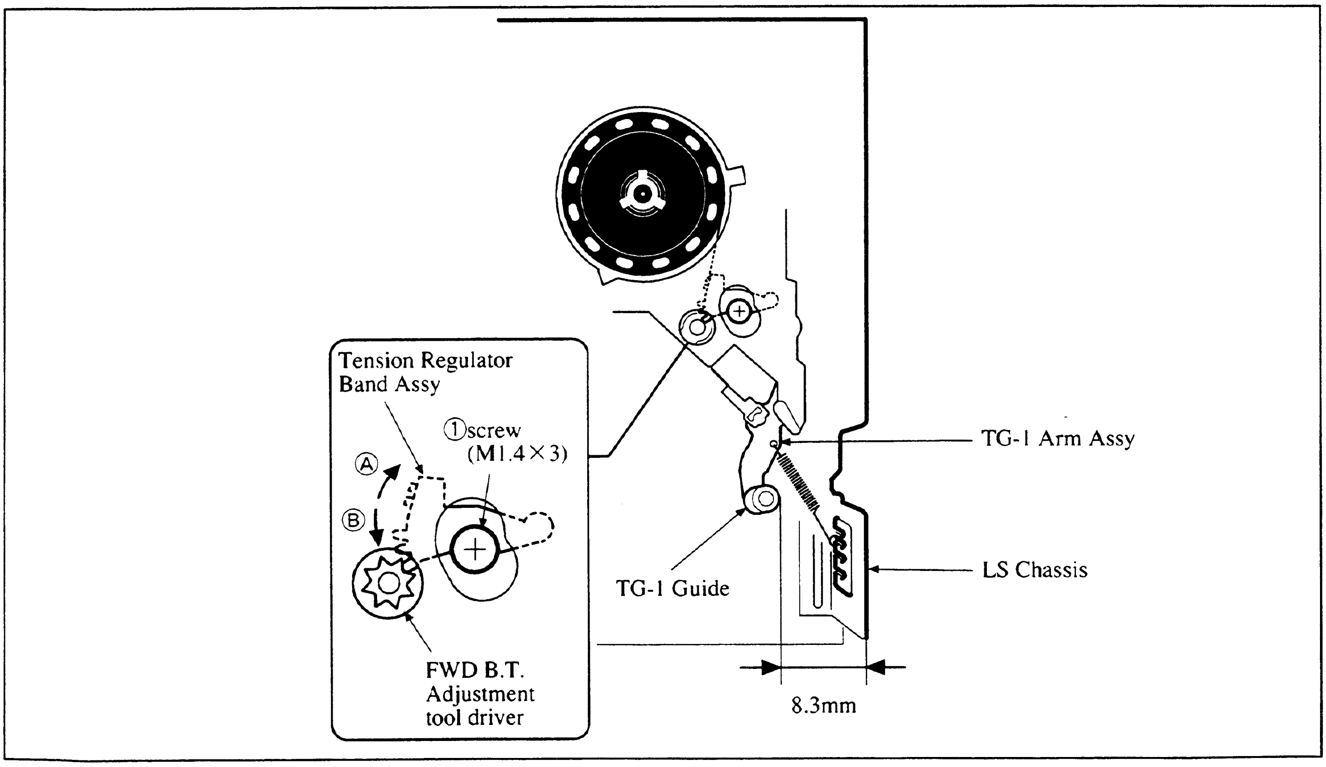

Tension Regulator Band Assy
①screw (M1.4×3)
Ⓐ
Ⓑ
FWD B.T. Adjustment tool driver
TG-1 Guide
TG-1 Arm Assy
LS Chassis
8.3mm

Fig.24

3-19. FWD Tape Hold-Back Tension Adjustment (Refer to Fig. 25)

1. Adjustment Procedure

1) Insert the torque measurement cassette to the machine.
2) Put the machine in the FWD mode. Confirm that the reading on the S side is in the range from 8.0 to 10.5 g•cm. If the reading is outside the specification range, make the following adjustments.
3) If the reading is higher than the specification, change the TG-1 Tension Spring to the side Ⓐ.
4) If the reading is lower than the specification, change the TG-1 Tension Spring to the side Ⓑ.

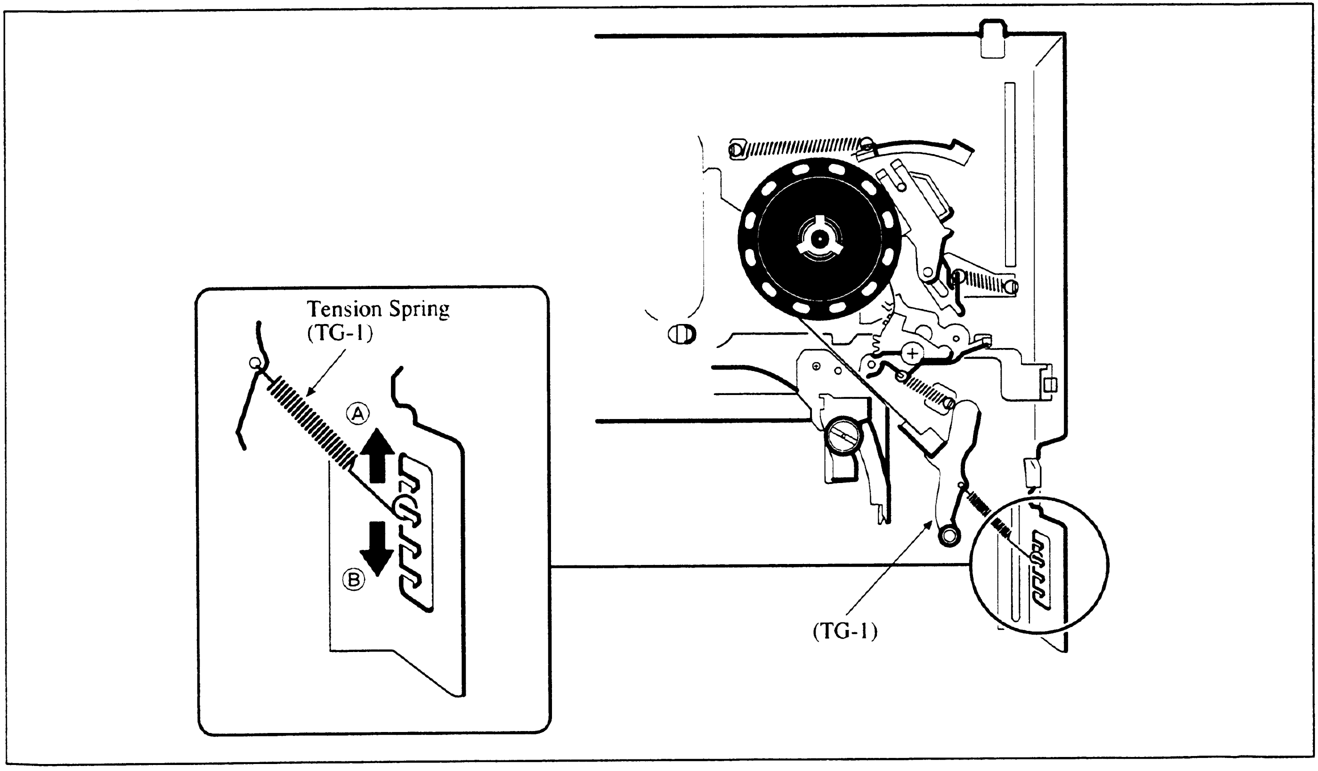


Fig. 25

4. TAPE PATH ADJUSTMENT

Purpose:	Adjusts the head linearity.
Adjustment Error:	Noise appears on top and bottom of display when playing back the tape recorded by other machines.

4-1. Preparations for Adjustments

1) Clean the tape running surface (tape guide, drum, capstan, pinch roller).
2) Connect the adjustment remote commander to the REMOTE terminal (JACK block).
3) Establish the PATH mode using the adjustment remote commander (Track Shift mode)* to cancel auto tracking.
4) Connect an oscilloscope.
   CH1: Test connector PB RF terminal
   External trigger: Test connector PB SWP terminal
5) Playback the tracking alignment tape WR5-1NP (NTSC) or WR5-1CP (PAL) (Ref. No. J-6).
6) Check to see that RF waveform is flat at input and exit sides on oscilloscope.
   If it not flat, perform the following section 4-2 until it is flat.
7) After completing the adjustment, release the PATH mode (Track Shift mode).*.

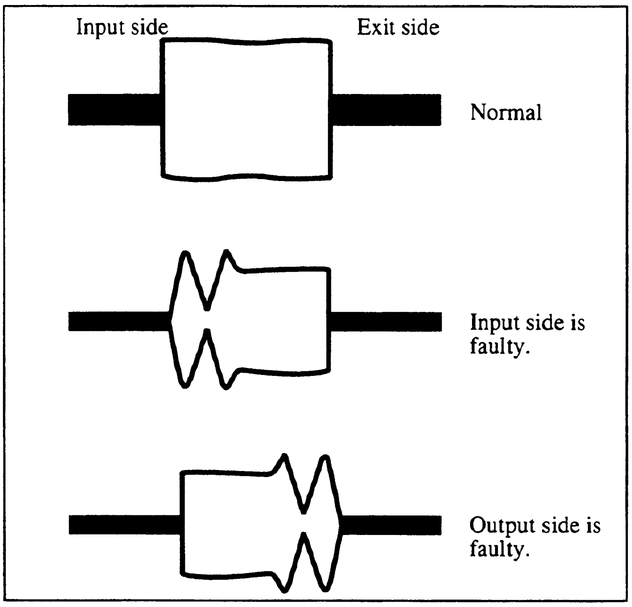


Fig. 26

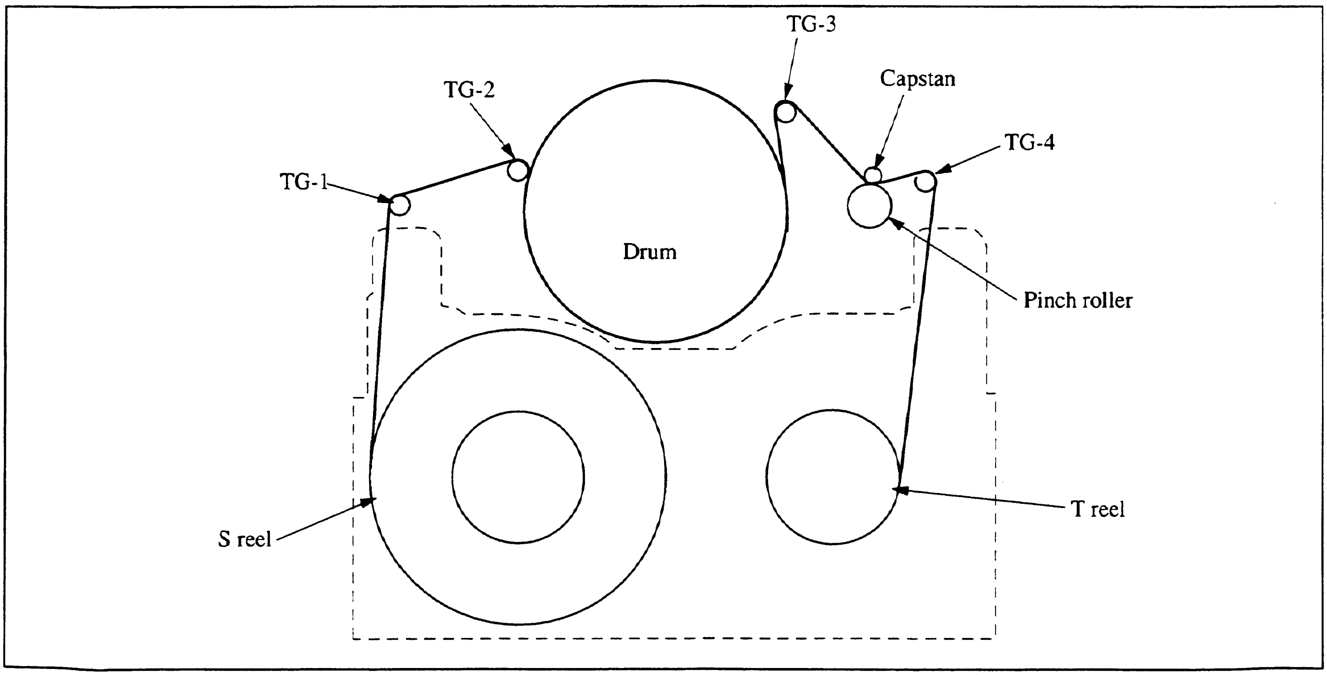


Fig. 27

* How to enter and exit the Track Shift mode. (In the case of CCD-TR420E/TR440E)

Entering the Track Shift mode

1. Select page : 6, address : 00 set data : 01 and press the PAUSE button.
2. Select page : 7, address : 01 set data : 03 and press the PAUSE button.

Exitting the Track Shift mode

1. Select page : 7, address : 01 set data : 00 and press the PAUSE button.
2. Select page : 6, address : 00 set data : 00 and press the PAUSE button.

4-2. Tracking Adjustment (Refer to Fig. 28.)

1) Playback the tracking alignment tape WR5-1NP (NTSC) or WR5-1CP (PAL) (Ref. No. J-6).
2) Adjust the tape guide No. 2 until the input side waveform becomes flat.
3) Adjust the tape guide No. 3 until the input side waveform becomes flat.

☆ Zenith adjustment screws for the TG-2 and TG-3 do not need to be adjusted.

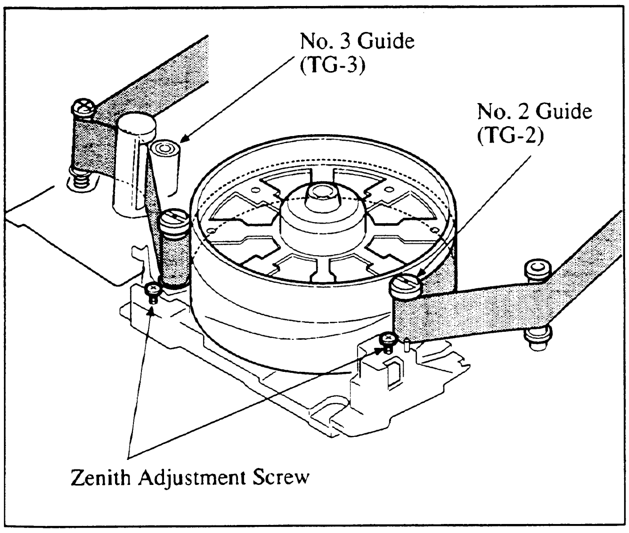


Fig. 28

4-3. No. 4 Guide (TG-4) Adjustment (Refer to Fig. 29.)

1) Playback a tape in REV mode.
2) Confirm that tape slack does not occur in between the guide No. 3 (TG-3) ① and Capstan ②. If tape slack is found, turn the height adjustment screw ④ of the Guide No. 4 (TG-4) ③ until tape slack is removed.
3) Playback a tape in FWD mode. Confirm that tape slack does not occur in between the guide No. 4 (TG-4) ③ and capstan ②. (Specification = 0.5 mm or less) If tape slack of more than 0.5 mm is found, turn the TG-4 nut ④ until the slack is 0.5 mm or less. Playback tape in REV mode and confirm that tape slack in between the guide No. 3 (TG-3) ① and capstan ② is 0.3 mm or less, the adjustment is complete.

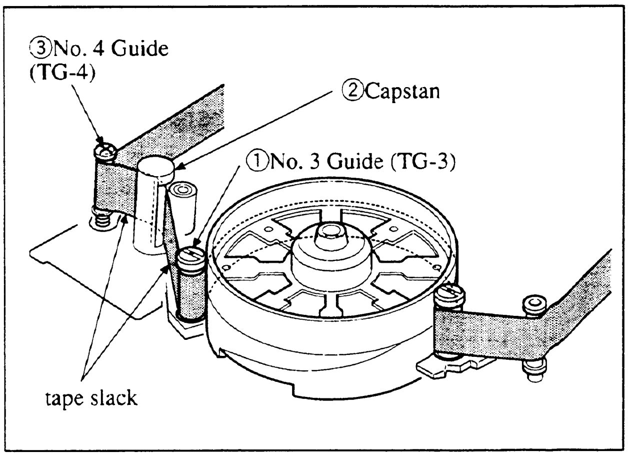


Fig. 29

4-4. CUE, REV Waveforms Check (Refer to Fig. 30.)

1) Playback the tracking alignment tape in REV mode.
   Confirm that pitches between the peaks of the waveform are equally spaced for 5 seconds or longer.
   The pitches are not equally spaced, perform sections "4-2. Tracking Adjustment" and section "4-3. No. 4 Guide Adjustment".
2) Playback the tracking alignment tape in CUE mode.
   Confirm that pitches between the peaks of the waveform are equally spaced for 5 seconds or longer.
   The pitches are not equally spaced, perform section "4-2. Tracking Adjustment".

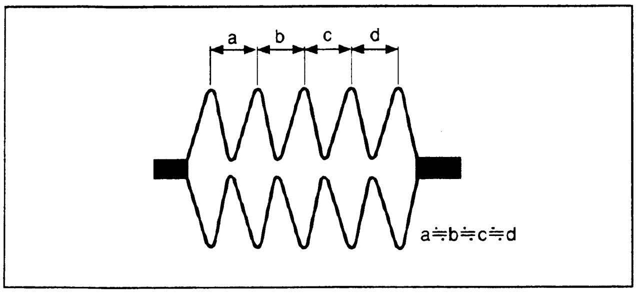


Fig. 30

4-5. Checks After Adjustments

4-5-1. Tracking Check

1) Confirm that amplitude of the RF waveform decreases to about 3/4 when the machine enters the PATH mode. (Refer to Fig. 31)
2) Confirm that the minimum amplitude (E_{MIN}) of the RF waveform is 65 % or more of the maximum amplitude (E_{MAX}). (Refer to Fig. 32)
3) Confirm that the RF waveform does not have too much fluctuation. (Refer to Fig. 33)

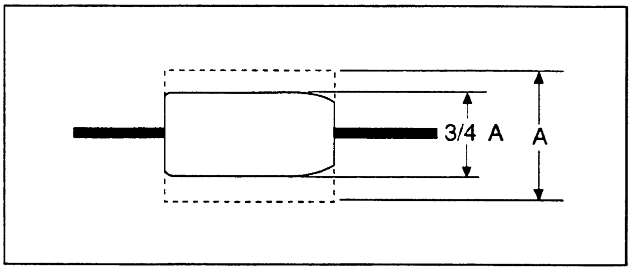
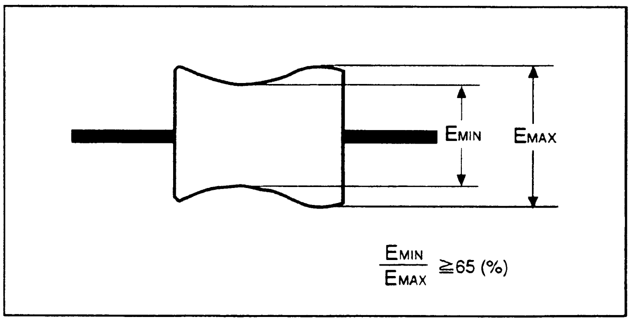
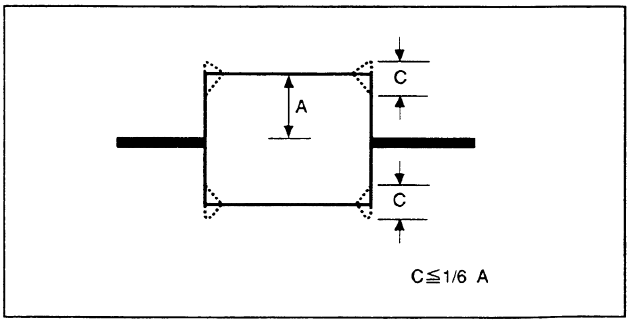


Fig. 31



$$\frac{E_{MIN}}{E_{MAX}} \geqq 65\ (\%)$$

Fig. 32



$C \leqq 1/6\ A$

Fig. 33

4-5-2. Waveform Build-up Check (Refer to Fig. 34.)

1) Playback the tracking alignment tape.
2) Turn OFF the Track Shift mode.
3) Eject the tape once, insert and load the tape.
4) Start playing back the tape and confirm that the RF waveform builds up in three seconds with flat envelope. Confirm at this time that tape slack does not occur near pinch roller.
5) Playback the tape in CUE/REV and FF/REW modes respectively. Confirm that the RF waveform builds up in three seconds with flat envelope. Confirm at this time that tape slack does not occur near pinch roller.
6) Repeat the check items 3) to 5) again.

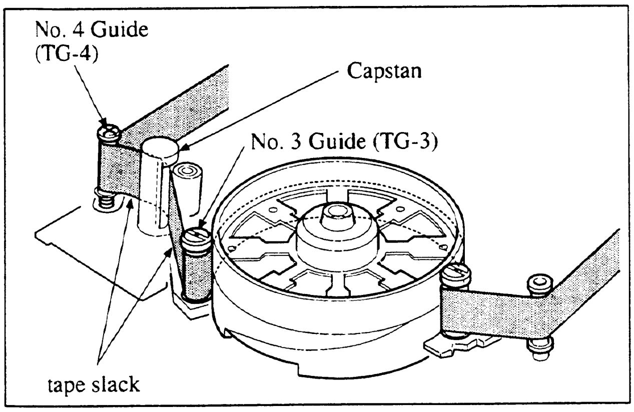


Fig. 34

4-5-3. Tape Pass Check (Refer to Fig. 35.)

1) Insert a thin video tape such as P6-120MP (NTSC) or P5-120MP (PAL). Playback the thin tape. Confirm that there is no clearance or curl of 0.3 mm or more at the following points: Upper flange of guide No. 2, upper flange of guide No. 3, upper and lower flanges of guide No. 4.
2) Confirm that there is no clearance or curl of 0.3 mm or more at each tape guide when the FF button is pressed from the playback mode to enter the CUE mode, and when the REW button is pressed from the playback mode to enter the REV mode.

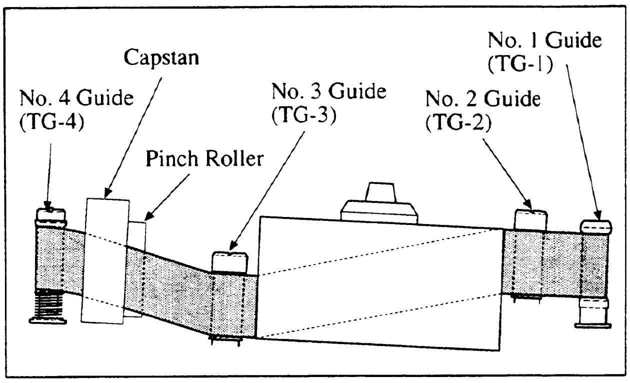
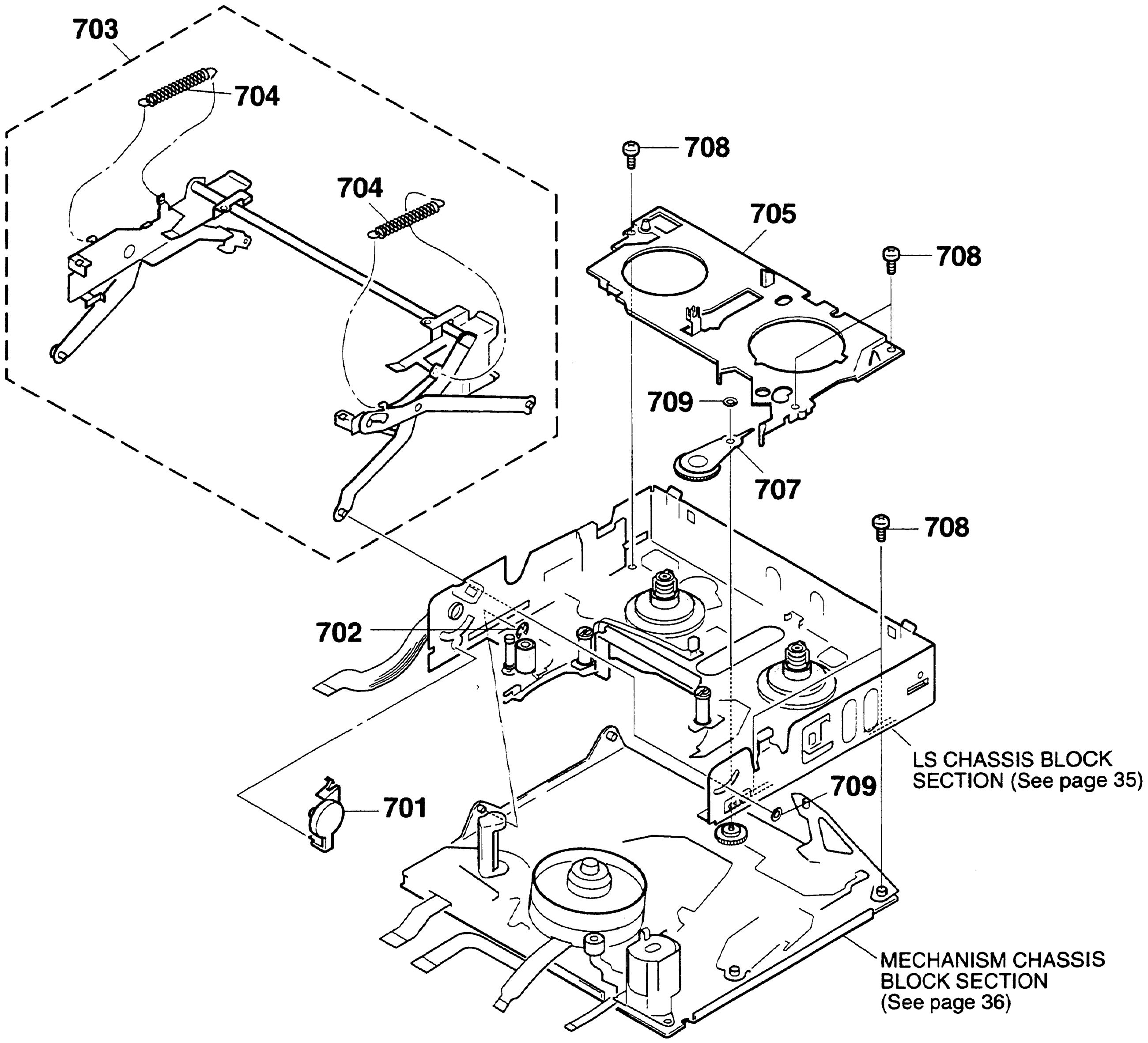


Fig. 35

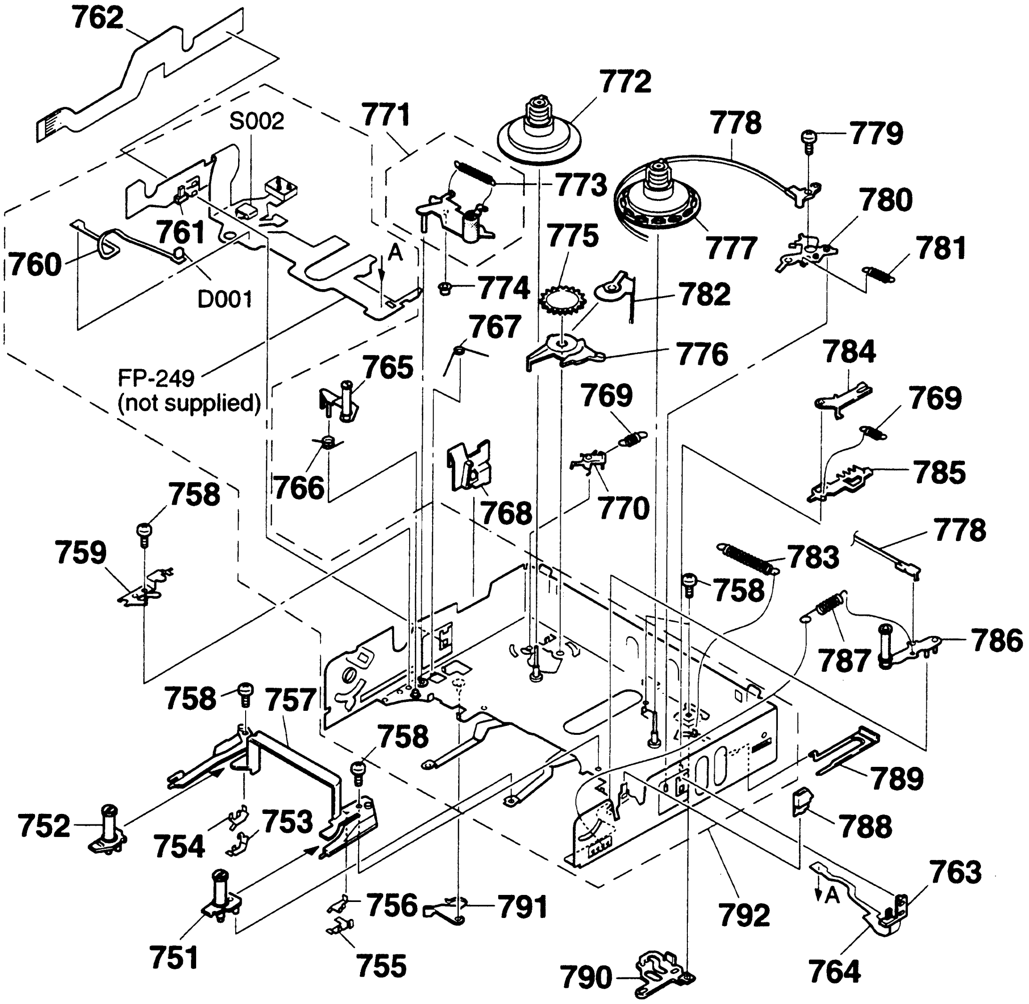
5. EXPLODED VIEWS

5-1. Cassette Compartment Block Section


703
704
704
708
705
708
709
707
708
702
LS CHASSIS BLOCK SECTION (See page 35)
709
701
MECHANISM CHASSIS BLOCK SECTION (See page 36)

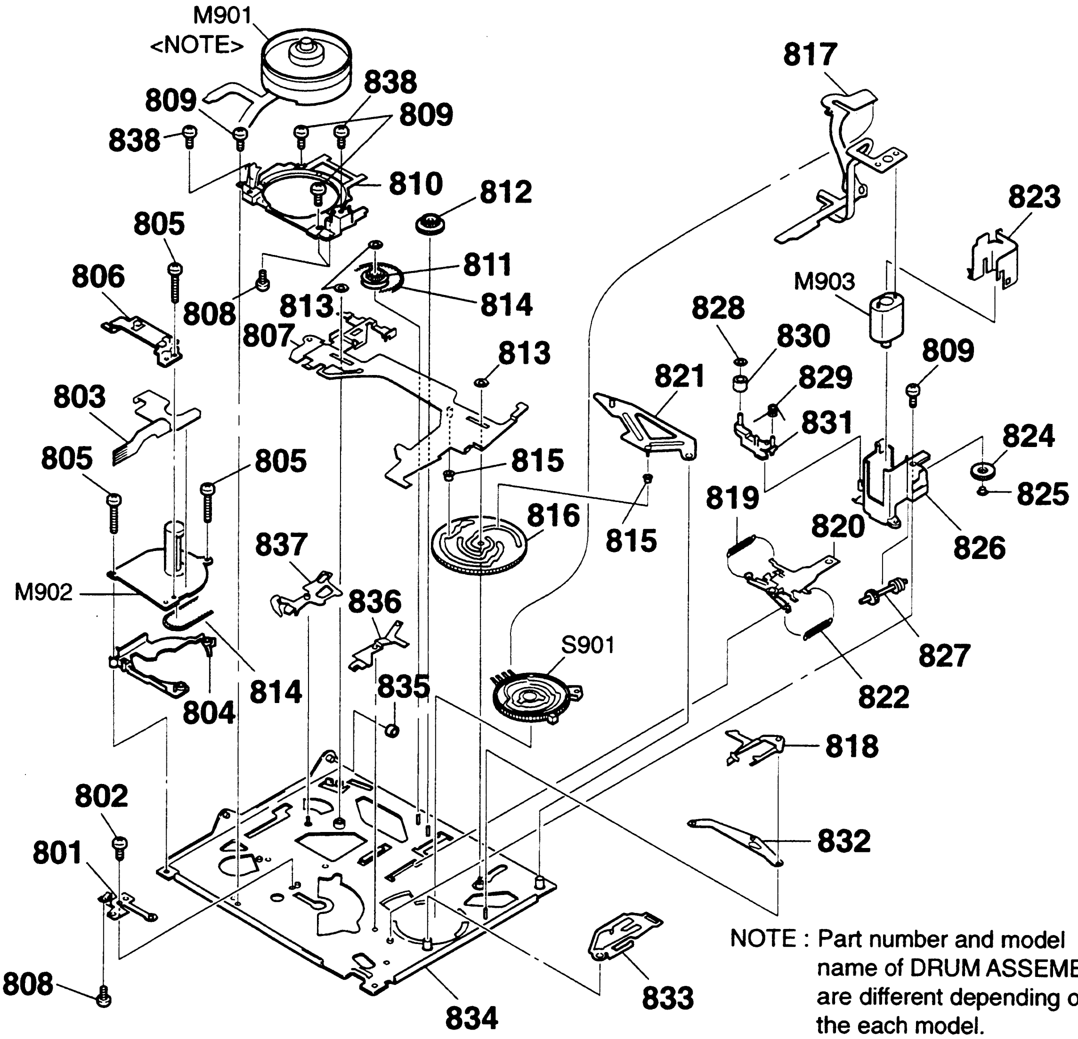
Ref. No.	Part No.	Description	Remarks
701	A-7040-421-A	DAMPER ASSY	
702	7-624-102-04	STOP RING 1.5, TYPE -E	
703	X-3945-400-1	CASSETTE COMPARTMENT ASSY	
704	3-965-587-01	SPRING, TENSION	
705	3-965-584-01	RETAINER, GOOSENECK	
707	X-3945-399-1	GEAR ASSY, GOOSENECK	
708	3-947-503-01	SCREW (M1.4X2.5)	
709	3-331-007-21	WASHER	

5-2. LS Chassis Block Section


762
S002
771
772
778
779
773
780
761
775
777
781
760
A
D001
774
782
767
776
784
FP-249
(not supplied)
765
769
769
785
758
766
768
770
778
759
783
758
786
787
758
757
758
789
752
753
754
788
763
A
756
791
792
751
755
790
764

Ref. No.	Part No.	Description	Remarks
751	A-7040-419-A	BASE (S) BLOCK ASSY, GUIDE	
752	A-7040-418-A	BASE (T) BLOCK ASSY, GUIDE	
753	3-965-559-01	STOPPER (T)	
754	3-965-557-01	STOPPER (T), GB	
755	3-965-558-01	STOPPER (S)	
756	3-965-556-01	STOPPER (S), GB	
757	3-965-553-01	RAIL, GUIDE	
758	3-947-503-01	SCREW (M1.4X2.5)	
759	3-965-573-01	RETAINER, TG4	
760	1-658-213-11	FP-355 FLEXIBLE BOARD	
761	3-965-552-01	HOLDER (T), SENSOR	
762	1-657-786-11	FP-221 FLEXIBLE BOARD	
763	3-965-551-01	HOLDER (S), SENSOR	
764	1-658-214-11	FP-356 FLEXIBLE BOARD	
765	A-7040-417-A	ARM BLOCK ASSY, TG4	
766	3-965-574-01	SPRING, TORSION	
767	3-965-575-01	SPRING (PINCH), TORSION	
768	3-965-568-01	GUIDE, LOCK	
769	3-965-562-01	SPRING (RATCHET), TENSION	
770	3-965-581-01	RATCHET, T	
771	X-3945-394-1	ARM ASSY, PINCH	
772	X-3945-398-1	DECK ASSY, REEL, T	
773	3-965-648-01	SPRING (PINCH), TENSION	
774	3-965-579-01	ROLLER, PINCH PRESS	
775	3-965-563-01	GEAR, T SOFT	
776	3-965-565-01	CLAW, T SOFT	
777	X-3945-397-1	DECK ASSY, REEL, S	
778	X-3945-396-1	BAND ASSY, TENSION REGULATOR	
779	3-945-756-01	SCREW (M1.4X3)	
780	3-965-583-01	ARM, RVS	
781	3-965-580-01	SPRING, TENSION	
782	3-966-384-01	SPRING, T SOFT	
783	3-965-578-01	SPRING, TENSION	
784	3-965-560-01	RATCHET, S	
785	3-965-561-01	PLATE, RELEASE, S RATCHET	
786	X-3945-395-1	ARM ASSY, TG1	
787	3-965-576-01	SPRING (TG1), TENSION	
788	3-965-567-01	LID OPEN	
789	3-965-566-01	COVER, LS GUIDE	
* 790	3-965-577-01	PLATE, CAM, LS	
791	3-965-569-01	ARM, EJ	
792	A-7040-427-A	LS CHASSIS ASSY (S1)	
D001	8-719-988-42	DIODE GL453S	
S002	1-572-688-11	SWITCH, PUSH (1 KEY) (C.C.LOCK)	

5-3. Mechanism Chassis Block Section


M901
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M902
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S901
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832
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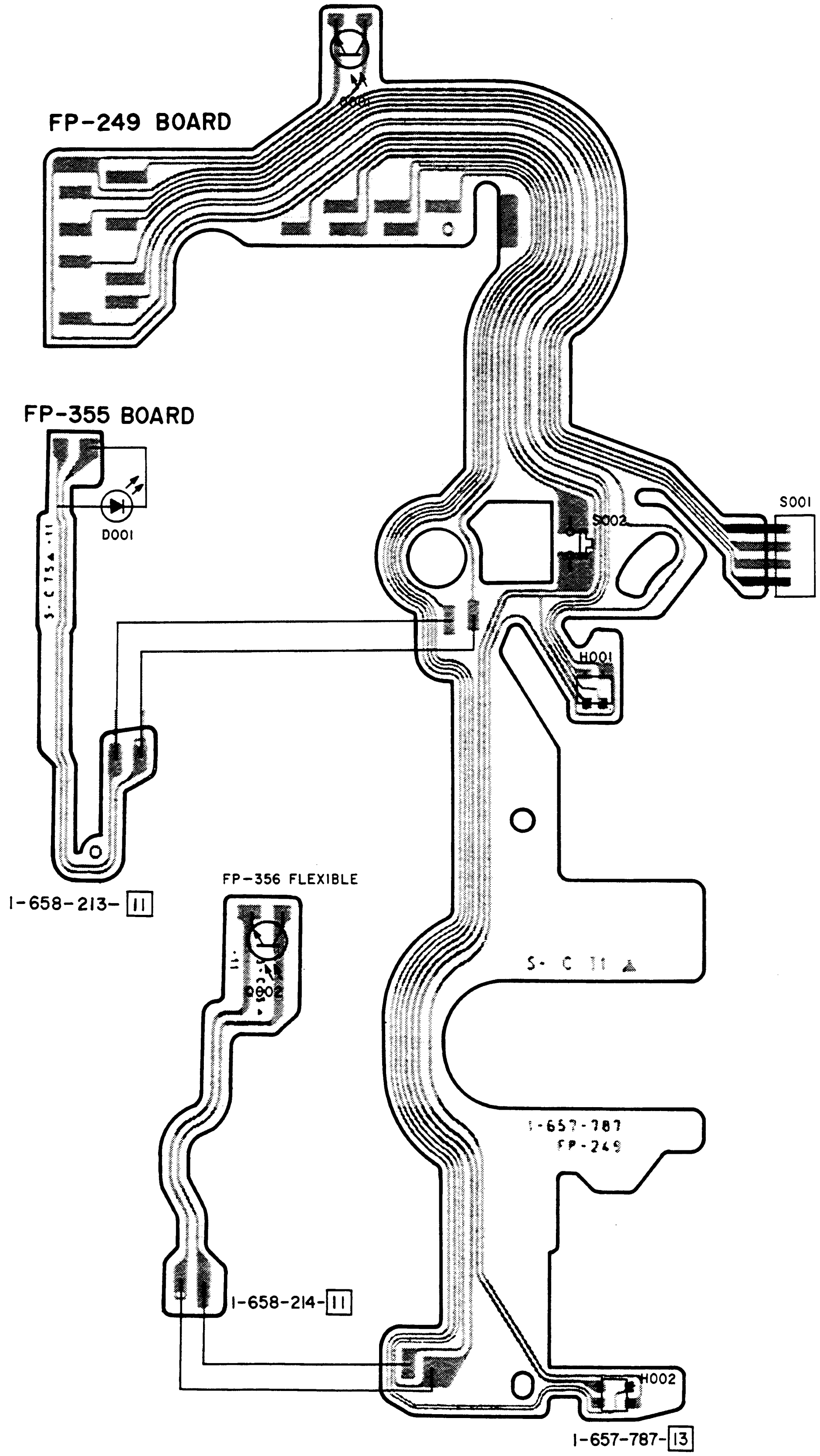
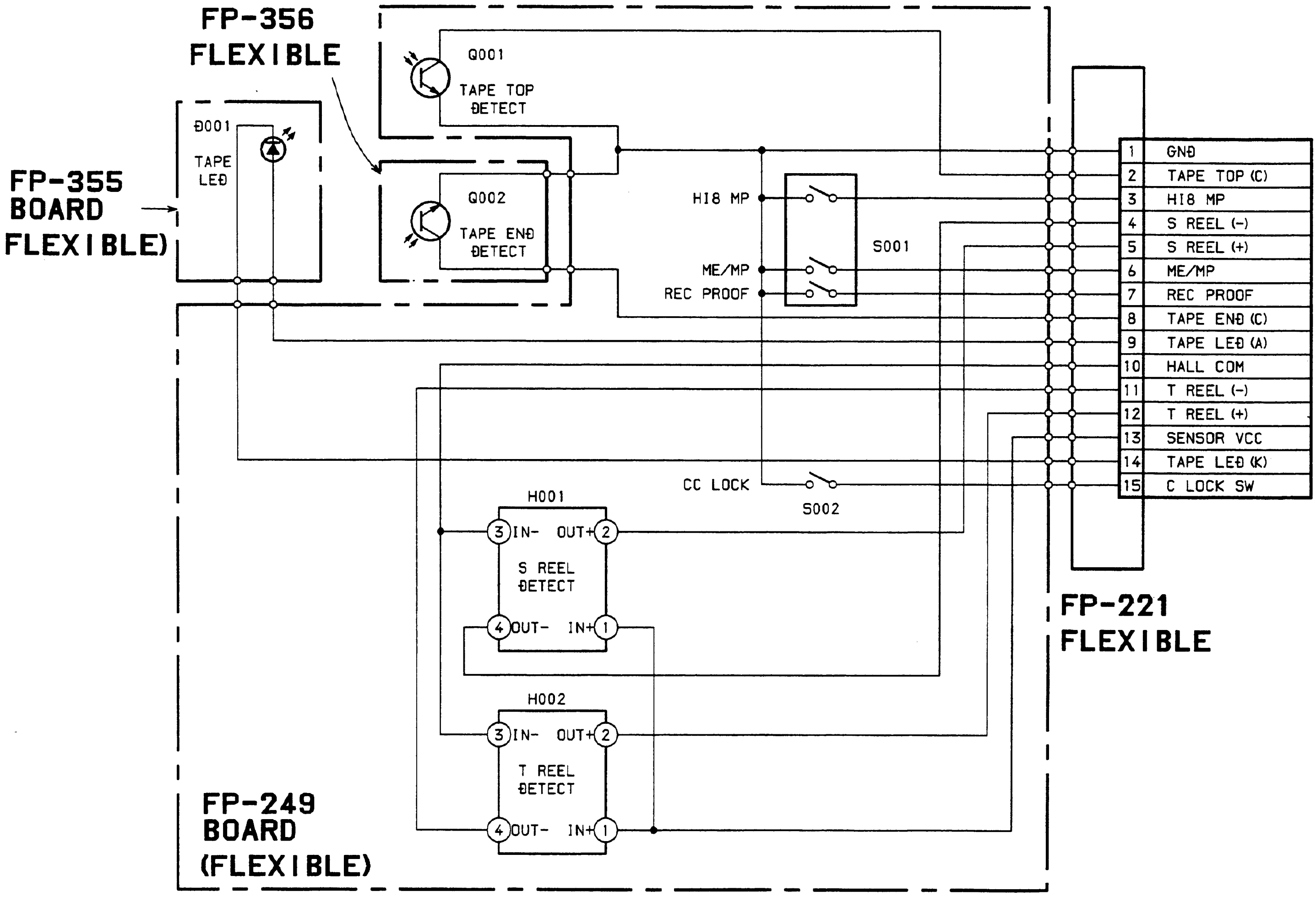
834
833

NOTE : Part number and model name of DRUM ASSEMBLY are different depending on the each model.

Ref. No.	Part No.	Description	Remarks
801	3-965-525-01	GROUND, SHAFT	
802	3-965-550-01	SCREW (M1.7X1.4)	
803	1-657-785-11	FP-248 FLEXIBLE BOARD	
804	3-965-545-01	SPACER, CAPSTAN	
805	3-965-549-01	SCREW (M1.4 X 6.5)	
806	3-966-349-01	HOLDER, FLEXIBLE	
807	X-3945-387-1	SLIDER ASSY, M	
808	3-965-588-01	SCREW (M1.4)	
809	3-947-503-01	SCREW (M1.4X2.5)	
810	A-7040-416-A	BASE BLOCK ASSY, DRUM	
811	3-965-527-01	GEAR, CHANGE	
812	3-965-544-01	GEAR, RELAY	
813	3-331-007-21	WASHER	
814	3-965-546-01	BELT, TIMING	
815	3-965-533-01	ROLLER, LS	
816	3-965-528-01	GEAR, CAM	
817	1-657-784-11	FP-220 FLEXIBLE BOARD	
818	3-965-529-01	PLATE, REGULATOR, TENSION	
819	3-965-536-01	SPRING, TENSION (BLACK)	
820	X-3945-388-1	SLIDER ASSY, GL	
821	3-965-532-01	ARM, LS	
822	3-965-535-01	SPRING, TENSION (SILVER)	
823	3-965-542-01	SHIELD, MOTOR	
824	3-965-539-01	GEAR (A)	
825	3-965-538-01	SLEEVE, MOTOR HOLDER	
826	3-965-540-01	HOLDER, MOTOR	
827	3-965-541-01	SHAFT, WORM	
828	3-321-393-01	WASHER, STOPPER	
829	3-965-724-01	SPRING, TORSION	
830	A-7040-423-A	ROLLER BLOCK ASSY, HC	
831	X-3945-407-1	ARM ASSY, HC ROLLER	
832	3-965-531-01	ARM, GL	
833	3-965-530-01	PLATE (2), REGULATOR, TENSION	
834	X-3945-386-1	CHASSIS ASSY, MECHANICAL	
835	3-965-526-01	ROLLER, LS GUIDE	
836	3-965-547-01	ARM, HC DRIVING	
837	3-965-534-01	PLATE, PRESS, PINCH	
838	3-966-819-01	SCREW +P1.4×3	
M901	See note.	DRUM BLOCK ASSY	
M902	8-835-531-01	MOTOR, DC SCE-0601A (CAPSTAN)	
M903	X-3945-401-1	MOTOR ASSY, DC (LOADING)	
S901	1-762-436-11	SWITCH, ROTARY (ENCODER)	

6. PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM


FP-249 BOARD
Q001
FP-355 BOARD
D001
S001
S002
H001
1-658-213-11
FP-356 FLEXIBLE
Q002
S- C 11
1-657-787
FP-249
1-658-214-11
H002
1-657-787-13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FLEXIBLE
FP-355
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Q001
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DETECT
Q002
TAPE END
DETECT
H18 MP
ME/MP
REC PROOF
S001
CC LOCK
S002
H001
3 IN-
OUT+ 2
S REEL
DETECT
4 OUT-
IN+ 1
H002
3 IN-
OUT+ 2
T REEL
DETECT
4 OUT-
IN+ 1
FP-249
BOARD
(FLEXIBLE)
FP-221
FLEXIBLE
1 GND
2 TAPE TOP (C)
3 H18 MP
4 S REEL (-)
5 S REEL (+)
6 ME/MP
7 REC PROOF
8 TAPE END (C)
9 TAPE LED (A)
10 HALL COM
11 T REEL (-)
12 T REEL (+)
13 SENSOR VCC
14 TAPE LED (K)
15 C LOCK SW

FP-249

7. ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description	Remarks
		FP-249 BOARD ************	
	1-658-214-11	FP-356 FLEXIBLE BOARD	
	3-965-551-01	HOLDER (S), SENSOR	
	3-965-552-01	HOLDER (T), SENSOR	
		< HOLE ELEMENT >	
H001	8-719-033-37	ELEMENT, HALL HW-105C	
H002	8-719-033-37	ELEMENT, HALL HW-105C	

Ref. No.	Part No.	Description	Remarks
		< TRANSISTOR >	
Q001	8-729-907-25	PHOTO TRANSISTOR PT4850F	
Q002	8-729-907-25	PHOTO TRANSISTOR PT4850F	
		< SWITCH >	
S001	1-692-614-11	SWITCH, PUSH (3 KEY)(REC PROOF)	
S002	1-572-688-11	SWITCH, PUSH (1 KEY)(C.C.LOCK)	

8mm Video MECHANICAL ADJUSTMENT MANUAL Ⅶ

English
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Sony Corporation
Consumer A&V Products Company
Personal Products Div.

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8mm Video MECHANICAL ADJUSTMENT MANUAL Ⅶ

B MECHANISM

Video8

SUPPLEMENT-1

File this supplement with the 8mm Video MECHANICAL ADJUSTMENT MANUAL Ⅶ.
(96-008)

Subject : USE OF MODE SELECTOR Ⅱ

2-5. USE OF MODE SELECTOR II

2-5-1. Outline

This unit is a mechanism drive tool which supplements the maintenance of each mechanism deck. Its functions are described below.

1. **Manual test**

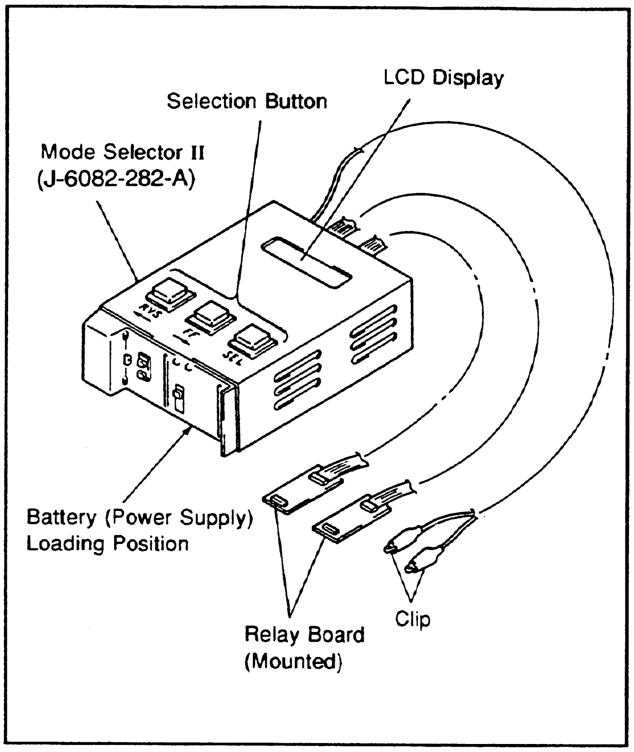
   A mode which drives the motor only while the switch is ON. It enables the operator to control the motor as desired.

2. **Step test**

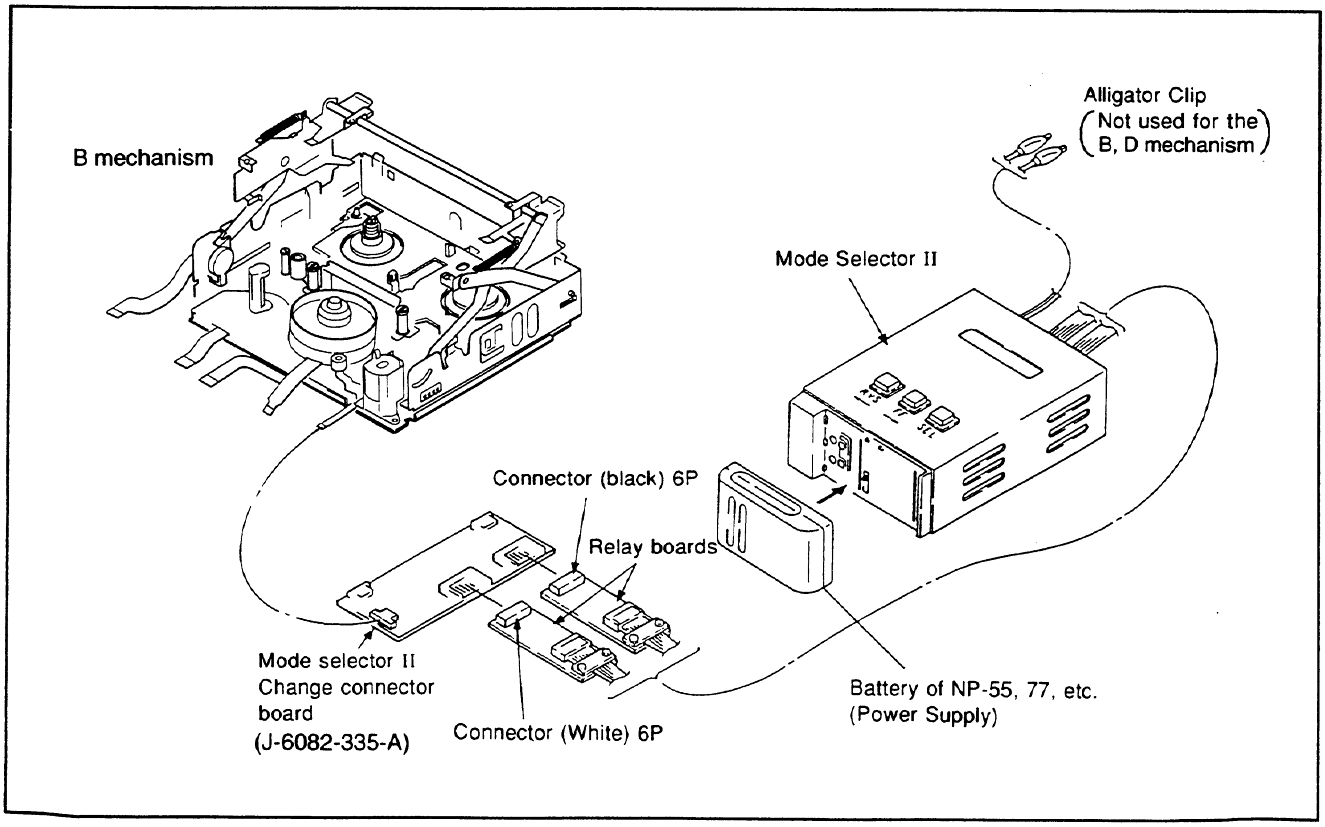
   A mode which drives the motor until the current condition detected by the sensor changes to another condition. It enables the movements made by the motor in each operation to be controlled while being checked.

3. **Auto test**

   A mode that checks if the mechanism operates normally according to the condition shift table recorded in the unit for each mechanism deck. All the conditions of the decks are checked through a series of operations.
   An error message is displayed if incorrect shifts and conditions are detected and operations are stopped.

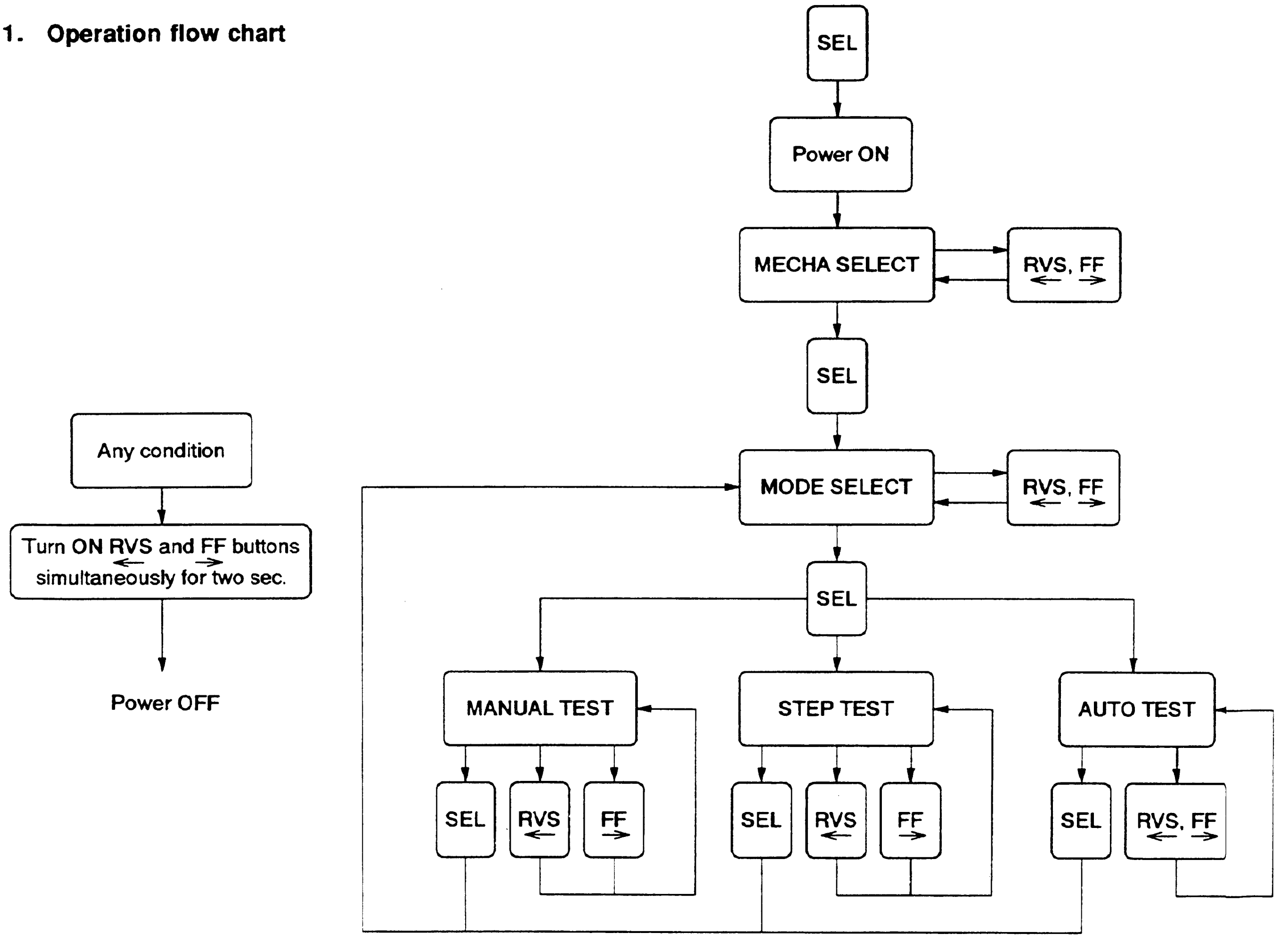

LCD Display
Selection Button
Mode Selector II
(J-6082-282-A)
Battery (Power Supply)
Loading Position
Relay Board
(Mounted)
Clip

Mode Selector II (J-6082-282-A) Connection


B mechanism
Alligator Clip
(Not used for the B, D mechanism)
Mode Selector II
Connector (black) 6P
Relay boards
Mode selector II
Change connector
board
(J-6082-335-A)
Connector (White) 6P
Battery of NP-55, 77, etc.
(Power Supply)

2-5-2. Operation

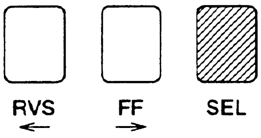
1. Operation flow chart


SEL
Power ON
MECHA SELECT
RVS, FF
SEL
MODE SELECT
RVS, FF
SEL
MANUAL TEST
STEP TEST
AUTO TEST
SEL
RVS
FF
SEL
RVS
FF
SEL
RVS, FF
Any condition
Turn ON RVS and FF buttons simultaneously for two sec.
Power OFF

(Excluding the K mechanism)

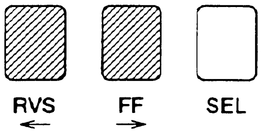
2. Turning ON the mode selector II

To turn ON the power supply, turn on the SEL button.



3. Turning OFF the mode selector II

To turn OFF the power supply, turn on the RVS and FF buttons simultaneously for more two seconds.



4. Mechanism selection

Immediately after the power supply has been turned on, "MECHA SELECT" will be displayed on the LCD. Select the desired mechanism using the $\underset{\leftarrow}{\text{RVS}}$ and $\underset{\rightarrow}{\text{FF}}$ buttons, and press the SEL button to complete the selection. (Fig. I shows the B mechanism)

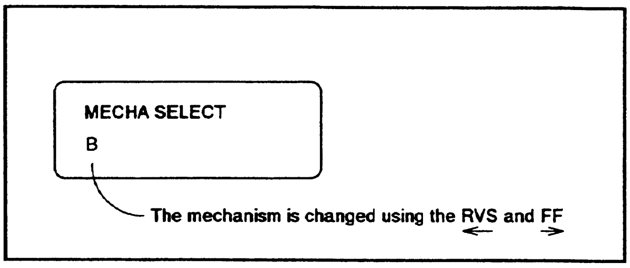

MECHA SELECT
B
The mechanism is changed using the RVS and FF
←
→

Fig. I

5. Mode selection

Select the test-"MANUAL", "STEP", and "AUTO"- to be executed.
Select the desired mode on the screen using the $\underset{\leftarrow}{\text{RVS}}$ and $\underset{\rightarrow}{\text{FF}}$ buttons, and press the SEL button to complete the selection.

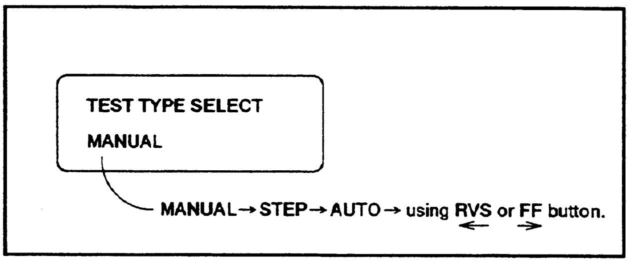

TEST TYPE SELECT
MANUAL
MANUAL→STEP→AUTO→ using RVS or FF button.
←
→

Fig. II

6. Manual test

A mode that drives the motor only when the $\underset{\leftarrow}{\text{RVS}}$ or $\underset{\rightarrow}{\text{FF}}$ button is pressed.

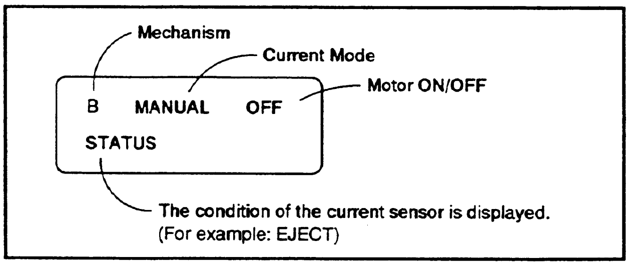

Mechanism
Current Mode
Motor ON/OFF
B MANUAL OFF
STATUS
The condition of the current sensor is displayed.
(For example: EJECT)

Fig. III

7. Step test

A mode that drives the motor until the direction of motor operations is set using the $\underset{\leftarrow}{\text{RVS}}$ and $\underset{\rightarrow}{\text{FF}}$ buttons and the current condition is changed.

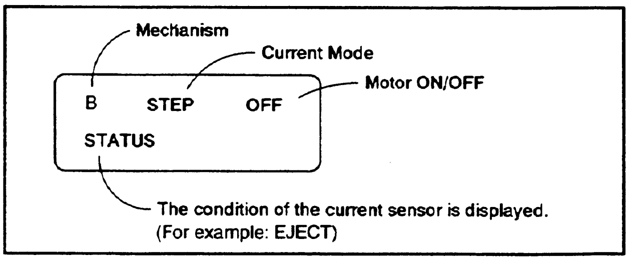

Mechanism
Current Mode
Motor ON/OFF
B STEP OFF
STATUS
The condition of the current sensor is displayed.
(For example: EJECT)

Fig. IV

8. Auto test

Each mechanism deck is checked for its recorded operation sequence. The check is executed by comparing the sensor signals generated in the operation sequence with the recorded operation sequence.
The same operation is carried out when the $\underset{\leftarrow}{\text{RVS}}$ or $\underset{\rightarrow}{\text{FF}}$ button is turned on.

Note: Sometimes the AUTO TEST spoils sequence due to a small range of $\boxed{\text{S. OFF}}$, but this is not a D mechanical trouble.

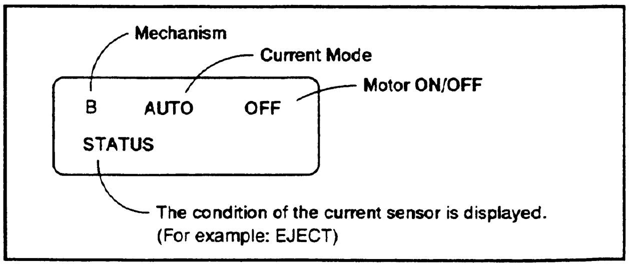

Mechanism
Current Mode
Motor ON/OFF
B AUTO OFF
STATUS
The condition of the current sensor is displayed.
(For example: EJECT)

Fig. V

Mechanism condition (position) shifting order

After selecting the mechanism, select one mode from the two test modes, excluding the AUTO test. Then press the $\underset{\leftarrow}{\text{RVS}}$ or $\underset{\rightarrow}{\text{FF}}$ button and specify the mechanism condition (position). (Displayed at the STATUS area)
EJECT ↔ USE ↔ LOAD ↔ STOP ↔ TURN ↔
R/P ↔ RVS

MD name Code				B mechanism
A	B	C		
1	0	0	1	EJECT
1	1	0	2	USE
0	1	0	3	LOAD
0	1	1	4	STOP
0	0	1	5	TURN
0	0	0	6	R/P
1	0	1	7	RVS

9. Battery alarm display

When the battery voltage (power supply unit of the unit) drops, this alarm is displayed, no operations can be carried out and the battery must be changed.

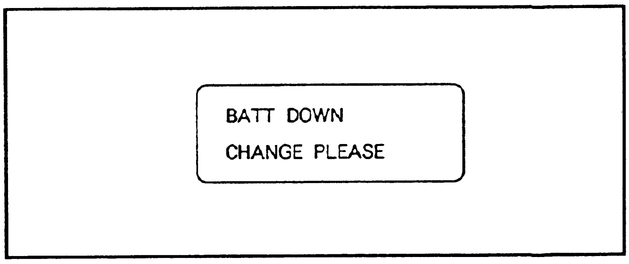

BATT DOWN
CHANGE PLEASE

Fig. VI

8mm Video MECHANICAL ADJUSTMENT MANUAL Ⅶ

English
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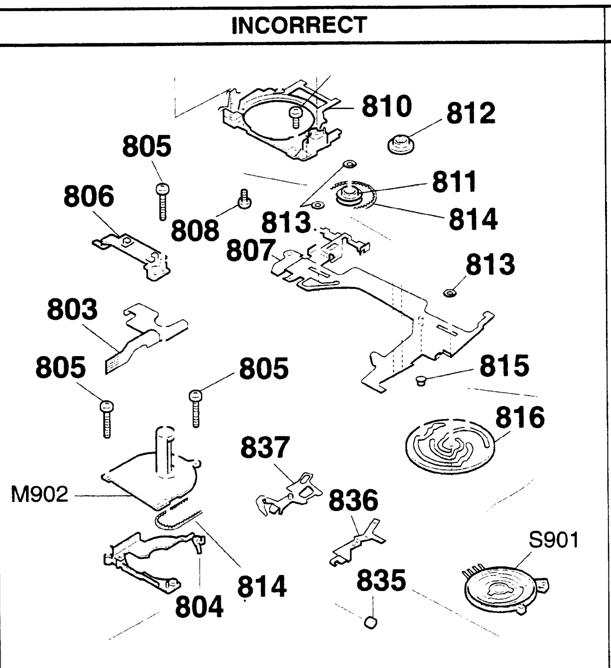
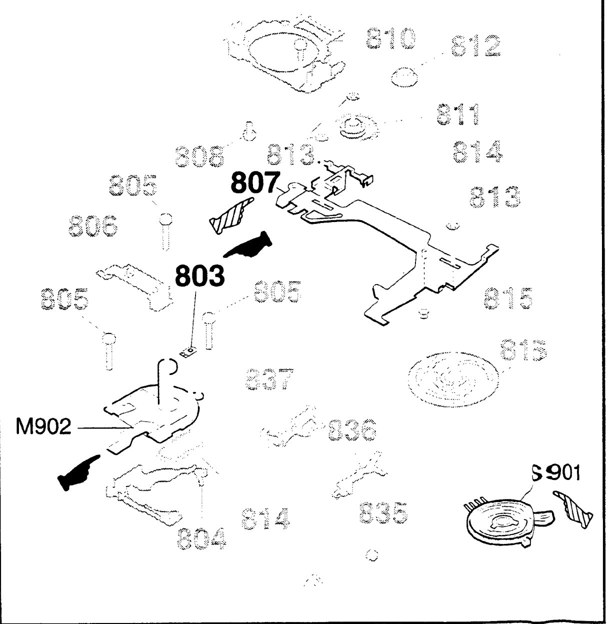
8mm Video MECHANICAL ADJUSTMENT MANUAL Ⅶ

B MECHANISM **video 8**

CORRECTION-1

Please correct the 8mm Video MECHANICAL ADJUSTMENT MANUAL Ⅶ.
(97-026)

☛ : indicates corrected portion. 803 (FP-248 FLEXIBLE BOARD)

Page	INCORRECT	CORRECT
36	 810 812 805 806 811 808 813 814 807 813 803 805 805 815 816 837 M902 836 S901 814 835 804	 810 812 811 808 813 814 805 807 813 806 803 805 805 815 816 837 836 M902 S901 804 814 835

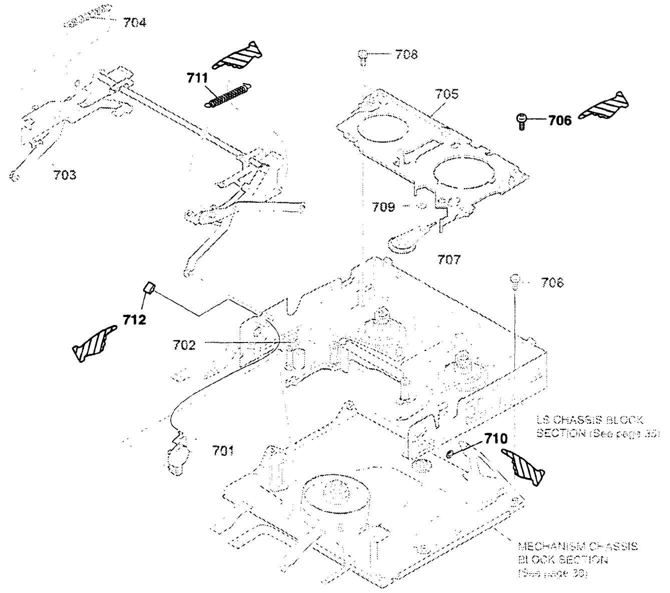
✎ : changed in the middle of production.
(change)

Page	FORMER				NEW	
36	801	3-965-525-01	GROUND, SHAFT	⇨	X-3947-343-1	GROUND (IM) ASSY, SHAFT
	807	X-3945-387-1	SLIDER ASSY, M	⇨	3-971-644-1	SLIDER (2) , M
	834	X-3945-386-1	CHASSIS ASSY, MECHANICAL	⇨	X-3947-915-2	CHASSIS ASSY. MECHANICAL
	S901	1-762-436-11	SWITCH, ROTARY (ENCODER)	⇨	1-762-436-15	SWITCH, ROTARY (ENCODER)

8mm Video MECHANICAL ADJUSTMENT MANUAL Ⅶ

☞ : changes and additions
Page 34

5-1. Cassette Compartment Block Section


704
711
708
705
706
703
709
707
706
712
702
LS CHASSIS BLOCK
SECTION (See page 35)
710
701
MECHANISM CHASSIS
BLOCK SECTION
(See page 39)

(change)

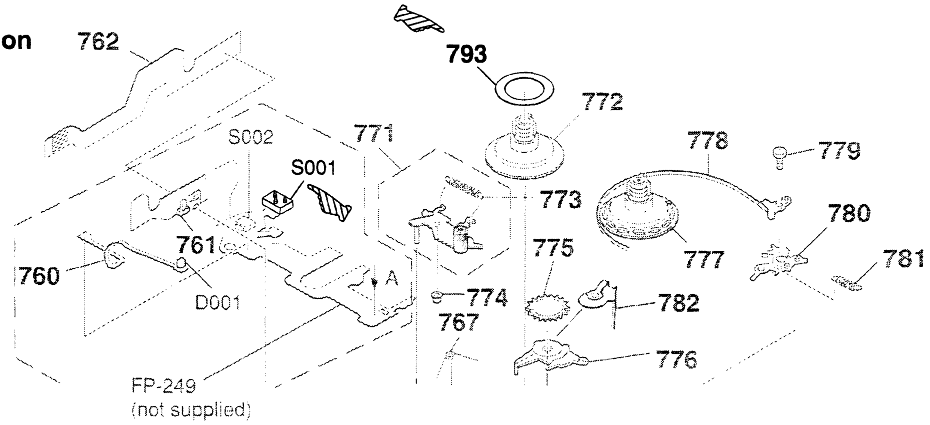
	FORMER			NEW	
706	3-947-503-01	SCREW (M 1.4 × 2.5)	⇨	3-976-055-01	SCREW, STEP (M 1.4 × 1)
710	3-331-007-21	WASHER	⇨	3-727-176-01	WASHER, STOPPER
711	3-965-587-01	SPRING, TENSION (POWER TENSION)	⇨	3-973-268-01	SPRING, TENSION (POWER TENSION S)

(addition)

712	3-971-076-01	FASTENER, D

☞ : changes and additions
Page 35

5-2. LS Chassis Block Section


762
793
772
S002
771
S001
778
779
773
780
761
775
777
781
760
A
D001
774
782
767
776
FP-249
(not supplied)

(change)

	FORMER			NEW	
786	X-3945-395-1	ARM ASSY, TG1	⇨	X-3947-355-1	ARM ASSY(2), TG1

(addition)

793	3-972-838-01	SPACER, REEL
S001	1-692-614-11	SWITCH, PUSH (3KEY) (Hi8 MP, ME/MP, REC PROOF)

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(Osaki East)

Notizen

8mm Video MECHANICAL ADJUSTMENT MANUAL VII

9-973-801-11 (MANUAL)
9-973-801-82 (SUPP.1)
9-973-801-92 (CORR.1)

Sony Corporation
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Personal Products Div.

Published by Personal A&V Products Div.
Quality Engineering Dept.

V16140

CCD-TR610E/TR710E/TR760E/TR810E/TR910E
RMT-708/715/716

SONY®

SERVICE MANUAL

AEP Model
UK Model
CCD-TR610E/TR760E/TR810E
E Model
CCD-TR610E/TR710E/TR910E
Australian Model
CCD-TR710E/TR910E
Tourist Model
Hong Kong Model
CCD-TR910E

CORRECTION-1

Please correct your Service Manual
(96-035)

SECTION 6 ADJUSTMENT

☞ : indicated additional portion

☞ : indicated changed portion

Page 6–20

5. Flange Back Adjustment

The inner focus lens flange back adjustment is carried out automatically. If it is not adjusted correctly, it will be out of focus during auto focusing/ manual focusing.

5-1. Flange Back Adjustment (1)

Adjusting method:

Subject	Flange back adjustment chart (2m from the front of the lens) (Luminance: 200 ± 50 lux)
Measurement Point	Check operations on TV monitor
Measuring Instrument	
Adjustment Page	F
Adjustment Address	2E to 33, 49 to 4D

1) Check that at both the zoom lens TELE terminal and WIDE terminal, the center of the chart for the flange back adjustment and center of the exposure screen coincide.
2) Set data: 01 to page: 0, address: 01.
3) Check that the data of page: F, address: 2E to 33, 49 to 4D is the initial value (see table below).

Address	Data	Address	Data
2E	A6	49	25
2F	1A	4A	00
30	15	4B	19
31	24	4C	00
32	8C	4D	16
33	11		

4) Check that the data of page: 2, address: 02 is 00.
5) Set data: 13 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
6) Set data: 15 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
(The adjustment data will be automatically input to page: F, address: 2E to 33, 49 to 4D.)
7) Check that the data of page: 2, address: 02 is "01".

Processing after Completing Adjustments
1) Turn OFF the main power supply (8.4V)
2) Perform "Flange Back Adjustment (2)".

Page 6–20

5-2. Flange Back Adjustment (2)

Perform this adjustment after performing "Flange Back Adjustment (1)".

Subject	Subject more than 500m away (Subjects with clear contrast such as buildings, etc.)
Adjustment Page	F
Adjustment Address	2E to 33, 49 to 4D

Adjusting Method:

1) Set the IRIS to open. (Use a ND filter)
2) Set the zoom lens to the TELE end and expose a subject that is more than 500 m away (subjects with clear contrast such as buildings, etc.). (Nearby subjects less than 500 m away should not be in the screen.)
3) Set data: 01 to page: 0, address: 01.
4) Check that the data of page: 2, address: 02 is "00".
5) Set data: 13 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
6) Set data: 29 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
   (Adjustment data will automatically be input to page: F, addresses: 2E to 33, 49 to 4D.)
7) Check that the data of page: 2, address: 02 is "01".

Processing after Completing Adjustments

1) Set data: 00 to page: 0, address: 01.
2) Turn OFF the main power supply (8.4V).
3) Perform "Flange Back Check".

9-973-893-91

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